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HYGEIA

A JOURNAL OF INDIVIDUAL AND COMMUNITY HEALTH

Published by the American Medical Association

Camping Restores Health

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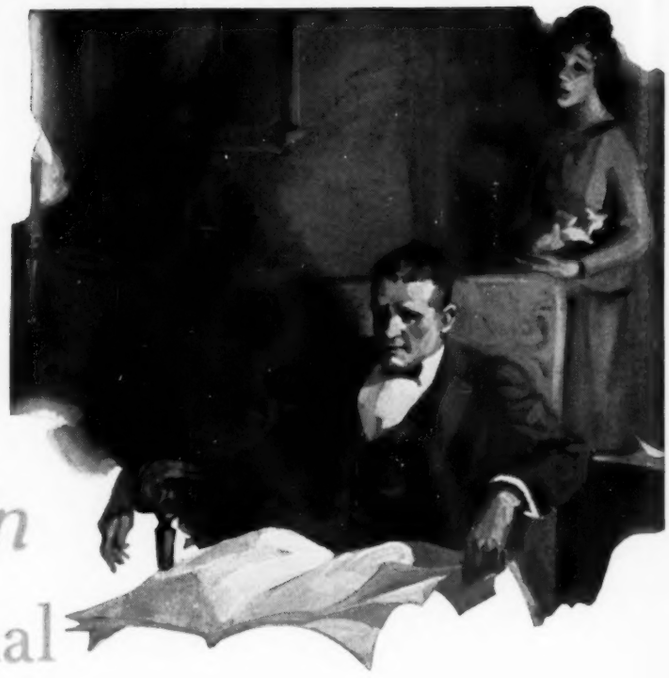
Sept. 1924

HYGEIA PRIZE POSTER



Persistent Pain
is your danger signal

Consult Your Doctor First

Are you one of those persons who believe they can "wear out" an ailment?

Such a practice often leads to disastrous ends, as in the case of a man who was proud of his "stolidity."

He had experienced recurring pains in his side and each time tried to "talk himself out of them."

Various home remedies were tried without success. Eventually the pain grew so intense that the sufferer called in a physician. The doctor diagnosed the case and discovered the shocking fact that the patient was suffering from a disease which had progressed to a state where it was too late to operate.

Had this unfortunate man heeded the danger signal of recurrent and persistent pain and followed the sensible course of consulting his doctor at once, the ailment could have been taken in its early stages when it yields most readily to treatment.

How many times have you seen people allow chronic disease to develop by neglecting the danger signals of minor pain?

Don't deceive yourself, see your doctor —a reliable M. D. — at the first sign of illness. His life's work is to know danger signals and symptoms.

It is easier to *keep* well than to *get* well. Be examined at frequent intervals by a good physician. Always consult him when in the least doubt about ordinary sickness. This is the best method of preventing the development of chronic disease.

Show this announcement to some relative or friend who you think would appreciate your thoughtfulness.

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HYGEIA

A JOURNAL OF INDIVIDUAL AND COMMUNITY HEALTH

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Contributions to HYGEIA *are considered, and, if accepted, paid for. Stamps for the return of unaccepted manuscripts should be enclosed. All communications should be addressed to* HYGEIA, *535 North Dearborn Street, Chicago, Illinois.*

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The October Issue

October finds the nation's army of teachers again in the classroom, and for them HYGEIA has planned a special educational number. Of the dozen or more articles dealing with the hygiene of the school child which will be included in the next issue, the following are suggestive of their scope and value.

1. WHY ELEMENTARY BACTERIOLOGY SHOULD BE REQUIRED IN THE HIGH SCHOOL
   J. E. Greaves, Professor of Bacteriology, University of Utah.
2. HYGIENE IN AN AMERICAN COLLEGE
   J. Rosslyn Earp, M.A., M.R.C.S., L.R.C.P. Director of Hygiene, Antioch College, Ohio.
3. GOOD EYES
   Edward Jackson, M.D.

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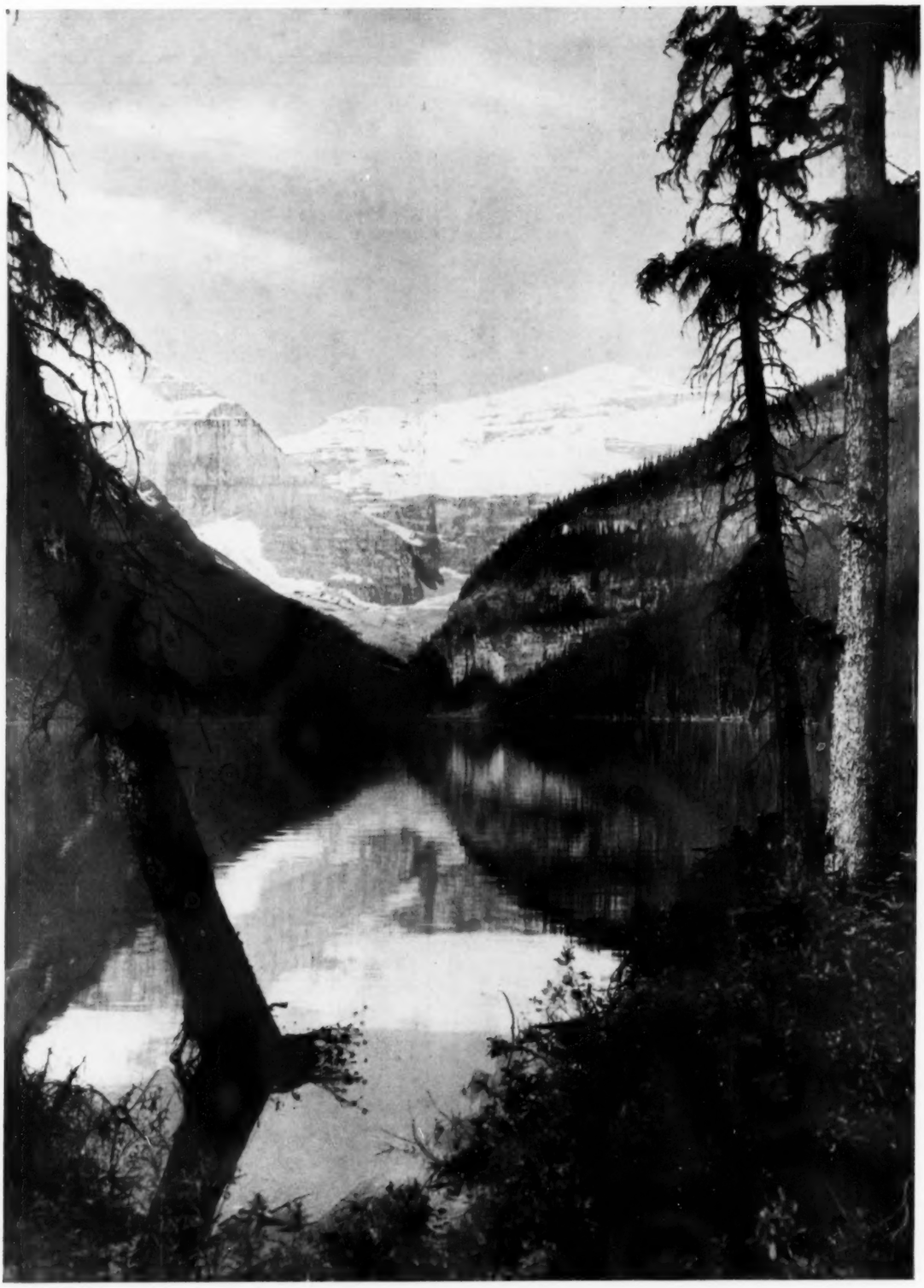


Now Your Child Is Six Years Old

BORDEN S. VEEDER

MY BABY is six years old and must enter school this fall. Nearly three million mothers have had this thought this summer. To some it is an old thought —many however are facing it for the first time.

Nearly three million children enter our American schools each fall and start on an eight year period of preparation for life and citizenship. Each mother dreams of her child steadily climbing the path of education and accumulating the knowledge that is to bring fame, monetary rewards, and happiness.

How many of these hundreds of thousands of mothers have asked themselves: "Is my six year old ready to enter school? Is he strong and vigorous enough to meet the changed conditions of life he will encounter? Has he physical defects that not only will prevent his making average progress in his studies, but even hold him back in his work?" Not very many, experience has shown.

How many parents realize that out of twenty million school children in America, fifteen million, or three fourths, are suffering from physical defects? Professor Wood of Columbia has estimated that from three to four hundred thousand have organic heart disease; one million, disease of the lungs; one million, bad posture; one million, poor hearing, and five million, defective vision. Careful examinations have shown that from 25 to 30 per cent. of our school children are undernourished. How many parents realize that more than one child in every ten in school is a repeater—has failed to make his or her grade at some time? That the eight years stretch to nine or more for completing the grade school? That the chief reason for this is a combination of sickness, ill health, and physical defects which in large part can be prevented.

Where There Is a School Examination

If your child enters a school in which there is modern and progressive school medical work you may receive a card asking you to have your child's teeth fixed, or notifying you perhaps that he has adenoids, or probably needs glasses as his vision is poor. This means that the school recognizes the importance of the child's health and a school physician has examined the child. But the vast majority of children will struggle along without a school medical examination and many parents will wonder why their child is so stupid and dull and fails to pass his work, when the real reason may be that he cannot hear distinctly or see the work on the blackboard. Many a child who is above the average mentally has been stigmatized as a dullard because of some physical defect which could be corrected.

There is only one answer. Unless your child has had a thorough physical examination including his general nutrition, eyes, teeth, hearing, heart, lungs, and the condition of his adenoids and tonsils, and unless steps have been taken to correct the defects found your six year old is *not* ready to enter school.

Take your child to your family physician and find out about these things. Americans have always prided themselves on their health and vitality. When it became necessary to examine the youth of our country for army service a few years ago nearly one half were found unfit for combatant service. This discovery served to awaken the nation to its neglect of many health factors.

What the Mother Can Do

How can you tell if your six year old child's general condition is average? Take his shoes, coat, and sweater off and stand him against the wall with his heels, hips, shoulders, and back of head touching. Then take a book and put it on the child's head and against the wall (using it as a carpenter uses a right angle measure) and mark with a pencil on the wall the height of the child, then weigh him and check up his weight on the following table:

WEIGHT-HEIGHT TABLE FOR CHILDREN OF SIX YEARS

Height in Inches	38	39	40	41	42	43	44	45	46	47	48	49	50
Weight, Boys (lbs.)	34	35	36	38	39	41	44	46	48	50	52	55	57
Weight, Girls (lbs.)	33	34	36	37	39	41	42	45	47	50			

Children of seven years weigh approximately the same.
Weight includes clothing after shoes, coats, and sweaters are removed.
Figures taken from Weight-Height-Age tables of Baldwin and Wood.

For example—if the boy is 43 inches tall he should weigh about 41 pounds. If he weighs 10 per cent. or more less than this average weight (in the example given 37 pounds or less) the chances are he has something the matter with him which needs attention. His best weight would be 3 or 4 pounds above the average, or 44 or 45 pounds.

But even if he is of average weight and height, the mother should not feel satisfied. His eyes or teeth may be seriously in need of attention. The weight-height table serves only as a gross index of his general condition, but by following his weight and height from time to time you can easily tell if he is developing properly. The only way you can tell whether he is ready for school, however, is by a thorough medical examination. Your doctor will not laugh at you for being an anxious mother if he examines your child and finds him fit. The physician of today is interested in keeping your child well and healthy. If your physician is not interested, it is time for you to change doctors.

Good Physical Condition Wards Off Colds

The great bugbear of the first year or two of school life is the frequency with which colds and other infections are contracted. Until the child enters school the chief source of infection is the other members of the family. In school the daily exposure to other children for a period of a few hours in a more or less confined space increases the opportunity for exposure.

There is no specific method of preventing colds, but their frequency, severity and duration depend largely on the general physical condition of the child. Nasal obstruction through infected membranes or adenoids is a common cause for their frequency and persistency. Rest at the very beginning of an infection will do more to lessen its severity and duration than anything else. If the child has fever, put him to bed and do not send him to school. Many mothers put off sending their children to school because of the fear of colds and infections. Sooner or later the situation must be faced and if the general health of the child is good there is no value in temporizing.

While the common cold is the greatest nuisance, the more serious danger is the exposure to the communicable or contagious diseases—measles, scarlet fever, diphtheria, mumps, chickenpox, German measles, whooping cough, and smallpox. In all probability the child has had several of these diseases and therefore with the exception of diphtheria has acquired an immunity against them and will not have them again. The more protected the child has been in his infancy and early life, the less the chance that these diseases have been contracted and hence the greater the liability of acquiring them at school.

It is practically impossible to prevent these diseases breaking out in schools and some degree of spreading taking place for the reason that with most of them the period when they are most catching is before the definite symptoms occur. In many instances a diagnosis of the disease is not made until infection has been spread to other children. Smallpox, of course, can be prevented by vaccination and this is compulsory before entering most schools. By all means have your child vaccinated before entering school. If the immunity from the first vaccination still persists the second vaccination will not take. If the second vaccination does take it means that the child was susceptible and probably would have developed smallpox had it broken out in your school district.

There are no practical means of preventing measles, German measles, chickenpox, mumps, and whooping cough, except by avoiding exposure to them, and for the reason given above this is difficult when a child is attending school. Diphtheria, however, belongs with smallpox and typhoid fever in the group of preventable diseases and there is no reason today why your child should ever develop diphtheria with its danger to life. A great many children over six years have acquired a natural immunity to the disease, particularly if they have been living in crowded districts. Rural children rarely acquire immunity to diphtheria.

The Schick Test

By means of the Schick test it is possible to determine whether or not your child is immune to diphtheria or whether he is susceptible. It is a test that can be made by your doctor. If he finds that the test is positive and that your child is susceptible to diphtheria, have him give the child three injections of the toxin-antitoxin mixture at intervals of a week or ten days. In over 90 per cent. of children this will develop an immunity in from a few weeks to a few months. Have a Schick test made at the end of three months. If it is still positive have the toxin-antitoxin injections repeated. If the reaction is negative you can forget about diphtheria and will not have to worry yourself sick every time you hear of a case of diphtheria in the school

or neighborhood, as the chances are very remote that a child with a negative Schick test will acquire the disease.

Scarlet fever is a disease we expect soon will be in a class with diphtheria, as far as its prevention is concerned. A test and immune serum has been worked out by Dr. Dick which promises the same results as the Schick test and toxin-antitoxin in diphtheria. The test and method are being prefected and are not available for general use at present nor are its limitations definitely known. Keep in touch with your physician and as soon as it is available take advantage of the test if your child has not had scarlet fever.

Maintain the Child's Health

Let us assume that your child's health and physical condition is good; that your doctor has found some defects and you have had these corrected. Now you have given the child a fair start in his school life; you are not entering him under a handicap. *It is most important that the child's health be maintained and not allowed to run down.*

Parents sometimes fail to realize the deep and fundamental changes which take place in the life of a child when he first enters school. Up to this time his place is a dependent one in the family circle. Now he has to conform to group standards and discipline and adjust himself to a group or mass environment and the herd instinct develops. Outside discipline becomes a factor in the child's adjustment to environment.

Children possess different degrees of social instinct; their reaction to school life differs and problems constantly arise which must be solved. Parents have it within their power to be of the greatest aid or the greatest hindrance to the teachers. Cooperation of teacher and parent is essential if the child is to develop properly during his school years.

School for a six year old should not be longer than a three hour session. This should be broken by brief periods of play and rest. At least eleven hours of sleep are necessary for the young school child. This leaves ten hours for play and meals. Play, so far as is possible, should be out of doors. If the child is high strung, nervous or underweight a rest period of absolute quiet is essential in the middle of the day to relieve the tension. Nervous tension usually increases considerably when a child enters school, owing to the difference in the mode of life and new interests which develop. Frequently one sees this repeated each fall in some children until the child has adjusted himself to the new environment.

From the start the school child should develop proper health habits. Diet, exercise, rest, and sleep are the essentials. We have mentioned exercise, rest, and sleep. Diet deserves especial attention.

One of the most common dietary faults encountered is the failure of the child to have a sufficient breakfast. This may be the result of previous improper habits, but more frequently arises in the early school years as a result of the early morning haste and excitement to get to school. The child should be made to get up early enough to dress and have at least a full twenty minutes for breakfast. Not only should the child have twenty minutes but he should be made to sit at the table and take the full twenty minutes. This can and should be made as much of the routine as getting to school on time, for as a matter of fact it is much more important.

A breakfast of milk or cocoa, cereal, an egg or a couple of strips of bacon, and two slices of toast with butter is the minimum. To those who think in terms of calories at least 500 are essential. Without this foundation you cannot expect a child to go through a morning of school work and maintain his health. To deprive a young child of school is usually a pretty severe punishment. The dictum—"no breakfast—no school" will curb the tendency to bolt a few mouthfuls. A proper start leads to the formation of good habits. Do not let the young child stay up so late at night that a late morning sleep is needed.

How to Dress the School Child

Perhaps the mother is puzzled about clothes for the school child. Since school rooms are apt to be overheated, the clothing should not be too heavy. Light clothing is preferable to heavy clothing. When heavier garments are needed, a sweater or coat that can be left in the cloakroom will be best. Particular attention should be paid to stockings and shoes, and stout rubbers should be provided for rainy weather. Long rubber coats and rubber hats are better than umbrellas for children and are not so apt to be mislaid or lost just when they are needed.

While neatness is a most desirable trait and requires encouragement, the clothing of the school child should never be so fine or so good that it is easily spoiled. The normal child pays little attention to his clothes. A good start is half the battle and parents owe it to their children to start them off in school sound in body and physically fit to meet the trials of school life.

"P'int de Toes o' Dem Shoes Out'ards"

FRANCES SAGE BRADLEY

ALL I say is, ef yer ever 'spec's ter git outen dat bed, plant dem shoes wid de toes p'intin' out'ards," and, tucking her panicky patient into the bed "'fo' another birthin' pain come," Aunt Mandy proceeded peremptorily to change the position of the cast-off slippers, so they would step out into the world again on convalescence.

As a further precaution, she sprinkled round each bed post, a pinch of pale, yellowish powder contained in a small flat tin box wrapped in yards of oily bandage which she carefully rewound before restoring the precious package to her black, baggy bosom. But this is another story.

The City Woman

The coming of a baby is a momentous event. If you happen to be in prosperous circumstances, you engage a specialist on the first signs of pregnancy; he gives you constant supervision, bespeaks for you the brightest, sunniest room in the hospital or the services of a capable, well trained nurse in your own well appointed home. Yet with all the comfort of a loving, intelligent family, with the satisfaction of having at your disposal the last word in medical science and skill, you await with suspense the smiling assurance of the doctor that yours is the finest baby to date and that you will soon be as sound as ever.

If perchance you live on the east side of New York, on the southwest side of Chicago, or in the congested district of any of our large cities, you send for the district nurse, attend regularly the prenatal clinic, treasure the promise of the doctor that a bed in the maternity ward is awaiting you, with the best skill the city affords if necessary. Nevertheless, only those who have been through the ordeal can know the relief when your baby is placed at last in your arms and you know that it is all over—until the next time.

But have you ever stopped to think of the other woman, the one who lives out on the endless plains, twenty, thirty, forty miles from the nearest neighbor, and 100 miles from a hospital? Can you picture to yourself just what you would do if your husband had to make a two day trip to bring the doctor; or of what might happen while you were jolting over rough roads to the nearest town for your confinement? For it costs money to call a busy physician such a long distance, and is often cheaper to move the family for a few weeks to a more accessible point.

Then there's the woman off in the remote mountains. During much of the year, mechanical obstacles make the roads impossible to travel, and you might be dependent on a chance neighbor or friend. Many children are born and reared in these far away places. Here birth control is an abomination in the sight of the Lord, and women bear six, eight, ten children with never a doctor in sight of their cabins.

Or suppose you lived down in the swamp and delta region of our circling coast or great streams. After every freshet the waters back up and for days and weeks, homes and even whole communities are marooned, cut off completely from the outside world. You might be dependent on your husband, your children or on your own unaided, untrained efforts to deliver yourself, even as many another woman has been.

This is not a cheering recital, but it is a true

account of what is happening to many rural women who are bearing three out of five of our coming American citizens. There is of course the lowly midwife, who is, for the most part, at least in the southern states, ignorant, illiterate, untrained, with only her experience and kindliness of heart to recommend her. "She" may even be a man, straight from the corn or the cotton field, who has received his lore from his forebears and will pass it on in like manner to his wife or children.

What Manner of Woman Is This?

If she comes from the mountains the midwife is practically always white, native born, and is an earnest, honest, God-fearing woman. She resents as a stigma the title of midwife, for she rarely accepts a fee, and often limits her ministrations to members of the family or to those cases unable to secure medical help, where to refuse would be inhuman.

A worthy descendant of her pioneer ancestors, she is serene, self-reliant, and meets emergency or disaster with a stoicism or equanimity quite disconcerting to the city person but reassuring to those of her kind. She draws on her own observation and experience, plus an inexhaustible supply of herbs and roots, with which every mountain home is equipped. Remedies handed down by her mother and grandmother are given empirically though in many cases they undoubtedly form the bases of more elegant preparations of our own pharmacopeia.

She knows the astringent properties of witch hazel, iron weed and alum root; and the laxative effects of golden seal, snake root and lady slipper. She is quick to prepare a soothing "ooze" of the inner bark of crab apple, linseed or slippery elm, and applies with equal confidence the irritating mustard or mullein. For colds, constipation, convulsions or "kidney trouble" she uses copious drafts or "drenchin's" of such combinations as will secure quick elimination from the excretory organs. She is ready for the lassitude of spring with a bitter tonic of dogwood or quassia bark; and for the victim of "rheumatiz" she has mountain birch or wintergreen.

She still believes in "teain'" the baby, and her faith in cupping is unshaken, especially for "congestion," "pneumony fever" and "bold hives." For this purpose she uses a tiny gourd, cutting off smoothly the extreme ends. The larger end she applies along the baby's spine, and through the smaller end, applied to her mouth, she draws the soft flesh into the hollow gourd. As a preventive measure this ought to be done once a week, but for curative purposes, daily application is necessary, and if the baby becomes "pidied" (which is a foregone conclusion) the termination is fatal, and one more death is laid at the door of Providence.

The Negro midwife is a southern product. She is found in the plateau and lowland region, one sparsely settled state confessing to 6,000 and another to more. She is less stable but, running true to type, is more emotional and superstitious than her highland sister and finds it difficult to abandon her beloved hoodoos and charms. Some of these are harmless physically but demoralizing mentally, resulting often in the acceptance of fatalistic and unnecessary consequences. She depends largely on hearsay rather than observation and draws on an inexhaustible and contradictory accumulation of folk lore to which she swears loyal but blind allegiance. Volatile, excitable, sympathetic and zealous in her attendance on her patient, she is yet susceptible to every suggestion, wise or unwise, and changes her procedure on the advice of a caller, the whim of a patient or the change of the moon.

If called to a case of threatened abortion or of miscarriage, she "drenches" her victim internally and externally with peach leaves or tansy, using the single variety if the woman is single and wants to get rid of the baby, or double tansy if she is married and has a right to the child.

Should the patient be of her own color, she is not allowed to rest "arter de birthin' pains comes on," but is instructed to walk round and round a prescribed circle, in the center of which is a pan of smoking cotton. When sufficiently exhausted, she falls semi-asphyxiated to the floor, where her baby is born; mother and child being then transferred to the bed, thereby saving much unnecessary and unwelcome washing.

She coaches her patient in blowing into a bottle or into her closed double fists, with every bearing down pain; and she has already hidden under the mattress, a pair of scissors, a knife or an axe blade to cut short her after-pains.

To relieve soreness after confinement she uses sugar and turpentine, soot and lard, soap and breast milk and the like. And when the mother begins to sit up she is cautioned against letting her milk "spring" into the open fire lest she "go dry." A remedy for the latter condition in case of the baby's death, a risen breast or other need for inhibiting the milk supply, is a bunch of needles strung round the mother's neck.

Has Remedy for All Disorders

Solicitude for the baby is expressed in many ways. The cord may be dressed with soot and lard, grated nutmeg, a split raisin or the time honored scorched cotton. For sore eyes, coffee, mother's milk or the baby's own urine is efficacious. Should he develop enlarged glands, generous poultices of mud or cow manure and breast milk are highly recommended. His shoes or stockings must not be allowed to fall to the floor or he will be retarded in walking. A remedy for this condition is to rub the spine and legs with the blood oozing from a nail hole driven through the shell of a live terrapin.

"Hit'll mek a rickety baby walk off ez bresh ez anybody," according to the Negro midwife, who, like her white prototype, is an autocrat in her neighborhood and whose ministrations are by no means limited to cases of confinement.

An endless variety of charms is said to ward off colds, communicable diseases and the perils of teething. These are usually worn round the neck as an amulet. There is the revered pinch of asafoetida, a cricket's nest, string of beads, of china buttons, or tiny sections of cane from the brake; there are the proverbial rabbit's foot, dog's or boar's teeth or the ear bones of a rat. Seven live wood lice tied in a little bag or a live toad fried in "shell grease" scraped from the inside of a used cartridge shell, have weird but vaunted virtues. A common internal remedy for bed wetting is "goat pills," and one much sought after for "pneumony fever" is an alcoholic extract of lice from the head of the maternal grandmother.

Results of Such Service

According to Dr. W. S. Rankin, state health officer of North Carolina, every year 750,000 women (representing approximately one third of the 2,500,000 births occurring annually in the United States), pass through the valley of the shadow of death with no ray of medical science to dispel its gloom, with only the flickering candle of the midwife to guide them through their travail. Add to this the labors without medical attendance, the enormous unsupplied need of medical supervision of pregnancy; add again the puerperal state, inadequately supplied, and you will have an uncared-for field of maternity from two to five times that which is cared for.

Of course the practices above referred to are not universal; neither are they all found in any one section. But the fact that they are found at all; that the women producing citizens of this prosperous, progressive country in the year of our Lord 1924 are being subjected to barbarisms of the middle ages, makes it difficult to justify ourselves for the high maternal and infant mortality which makes us a disgrace among civilized countries. It is not strange that we stand seven from the top in the protection given our babies and fourteen from the top in the care given our child-bearing women.

Why the Midwife?

Various factors strengthen the hold of the rural midwife on her public. First the element of expense is of no mean consideration. In the mountains especially where money is scarce and is not the only medium of exchange, an equivalent of friendly services may be often arranged between neighbors and a doctor's bill avoided.

To this must be added the fact that she often cooks, washes and irons, and cares for the household of her patient, thus insuring a needed and welcome rest during convalescence. She is less critical and exacting than the discriminating doctor in her demands for required equipment, adapting herself readily to the known limitations of the family. She is less hurried than the busy doctor, thereby adding greatly to the peace of mind of both patient and family.

She rarely "interferes" in the "birthin' of babies," a procedure considered an unwarranted and ungodly intervention in the ways of Providence. With infinite patience and philosophy she waits for nature to do her work, failing, sometimes with disastrous results, to call in skilled aid. On occasion she has been known to resort to effective mountain methods to protect her patient from "furreigners," albeit trained specialists. Above and beyond all of these reasons is the overwhelming custom and tradition. As in other emergencies of life, the country woman follows in the footsteps of her forbears.

What Can We Do About It?

If it were humanly possible, undoubtedly the consensus of opinion would be to eliminate the midwife and to secure to every child-bearing woman that medical and nursing service to which she is entitled. Unfortunately, reports from practically every rural state, testify to the increasing scarcity of doctors in remote regions.

It is doubtful, however, if the success of such a movement would materially affect the employment of skilled versus unskilled obstetric service. The status of the rural midwife is due to an attitude of mind which can only be changed by education of the entire rural population; education of the doctor to his obligation of leadership in the relation of the present great wastage of human life to modern scientific methods; education of the community to municipal responsibility for the physical integrity of its citizens especially along the lines of sanitation and law enforcement; education of parents in the fundamentals of hygienic living and of the obligation of parent to child; and last, but not least, education of the despised midwife who, for the present at least, plays a necessary and important rôle in the life of our rural population.

As in the reduction of maternal and infant mortality, the city has taken the lead and is pointing the way to the reclamation of the midwife. A few excellent training schools have been established, and the results of their work demonstrated. In rural states, boards of health, through their bureaus of child hygiene, are stressing the need of more intelligent midwifery, and are making a beginning in that direction. The midwives are being organized into classes and registered; simple, practical courses of instruction are given them by doctors or nurses, and as a result of careful supervision and checking-up of results, it is hoped steadily to raise the standard and eliminate the unfit.

Walking

JAMES FREDERICK ROGERS

WALKING is such a common performance and, once learned, requires so little skill that we hardly consider it a valuable form of exercise. The care with which walking, even for comparatively short distances, is avoided by many people would seem to signify that it is not beneficial, at any rate for those persons.

An exercise may be good in itself but the mental atmosphere in which it is carried out may counteract, to a large degree, its healthfulness, and the trouble with walking is that (after we have learned how) the mind may become absorbed with business other than that of perambulating.

In thought we may be in China while we are treading some Main street of America; the mental machinery may still be working on some problem of the office while the machine as a whole is trudging a country road.

Exercise Can Be Too Easy

If the exercise is at fault, it is because it has become too habitual and too easy. The same may be true of any other exercise. It is the same with any series of exercises, with or without apparatus, which we adopt as a daily dose. They seem and may be all they are said to be and do, and we enjoy them until we learn how to execute them easily, but the novelty having worn off they become monotonous and fall into neglect. The exercises are just as valuable as ever, but we have lost interest, and too often the mind wanders in introspective paths not healthful for the exerciser—to fields of worry and fretfulness over the ways of the world which somehow does not always behave as we wish.

An exercise to be most beneficial should be mind-absorbing, and walking needs some added feature—some objective to add the proper interest. Going on an errand may be sufficient to take away the curse of the "leg over leg" if the distance is not too great. New scenes, urban or suburban, may be sufficient. A golf stick, fishing rod, gun, camera or bird glass are helpful, according to our taste, and even a cane is useful for much more than support. A dog or agreeable human companionship is a still better accompaniment.

The speed of the walk, for best results, will depend on the walker. Each of us has a best gait, a natural rhythm, depending on length of limb and other factors; to go slower than this is irksome, to go much faster is fatiguing. A ship that crosses the ocean in five days will burn more fuel than one that makes the trip in ten, and the human machine works in much the same way. It is far more exhausting to run a mile than to walk a mile, or to walk rapidly for this distance rather than at our accustomed gait.

How far should we walk? That will depend on what we have been doing previously, for it may be that we need to lie down rather than walk. But granted that we are normally vigorous and have too little exercise in our daily work, ten miles a day would seem to be none too much if we are to consult the stock of fuel which many of us take in with the day's meals. According to those who calculate the calories, we ordinarily consume sufficient—in excess of our needs for keeping warm and for running the internal machinery of the body—to carry us five miles at a gait of five miles per hour, or ten miles at half this speed.

Writers Set Good Pace

"Lives of great men oft remind us" that some of them were great walkers. There was Sir Walter Scott, who, despite his lameness, walked twenty or thirty miles with pleasure. Wordsworth at 60 also walked twenty to thirty miles a

day and was without match as a mountain climber and skater. Carlyle at 80 walked five miles. Alexander Von Humboldt in some of his expeditions walked for fourteen hours at a stretch. Richard Porson, the famous Greek scholar, often walked fifty two miles, from Cambridge to London, to attend his club. Samuel Johnson walked a distance of thirty miles without fatigue.

Twelve, fifteen, twenty miles a day was none too long a tramp for Dickens and, if we can trust his biographer, he once did thirty miles before breakfast. Charles Lamb "was as wiry as an Arab and could walk all day." Tolstoi, at fifty eight, walked 130 miles in three days. Two of three companions broke down on the road, but Tolstoi arrived at his destination in merry mood and declared he had had the most enjoyable time of his life.

Coleridge is said to have walked forty miles without fatigue. Turner walked twenty miles a day, sketching as he walked. Beethoven had his walk or "run" of five miles in all kinds of weather. Emerson at 20 walked forty miles, and the delicate "washable away" De Quincey considered a tramp of fourteen miles a day necessary to keep him in health.

Possibly it is as well that some of us do not attempt to imitate these great persons in walking. It might be as harmful, as it would be useless, to try to rival them in literary and artistic achievement. Besides, we will be in the company of many illustrious persons if we limit our walk to a mile or two a day. It all depends, and we can only find out what is wise for us in this exercise by trying, not suddenly, but by degrees, what distance and what gait are best.

If we have been walking only a mile or two we should not change in a day to five or ten. This would discredit walking as an exercise, when if we had increased the distance gradually, we might have found five or ten miles none too much. In walking, every ounce we carry adds to the energy that must be expended and unprepared-for long hikes, with the addition of camp equipment, are anything but safe and sane for many persons, especially for children. Certainly we should never unnecessarily take tramps, the fatigue of which cannot be slept off in a night.

Easiest Way to Walk

Just how we should manipulate the parts of the body in walking is a subject about which there has been much theorizing. Walking is an exceedingly complicated performance and its method will depend considerably on the peculiar anatomical make-up of the individual. In walking we are always falling forward and always preventing a fall by placing a foot forward. Some, who claim to know, say we should plant the whole foot at once; some, that we should strike the heel and immediately transfer the weight to the ball of the foot. Others would have us touch the ground with the ball of the foot and then rest the whole of it on the ground. In practice, the first two methods most commonly prevail. We can try each of those suggested, but we will, no doubt, unconsciously return to that method of locomotion to which we are accustomed and which, for each of us, is natural.

We are told, besides, that we should carry the head and chest high, and there is some reason for this, provided it is not done to such an exaggerated degree as to prove fatiguing. At least we should assume such a position at the start to counteract the stooping we may have done over the day's work.

It goes without saying that one should dress for walking, especially in the matter of shoes and stockings. They should be comfortable and with heels that are broad and not too high. If the walk must be on paved streets, the heels may well be of rubber.

In at least one city, Philadelphia, public efforts have been made to encourage walking. Since 1909 Saturday afternoon walks have been planned by Mr. Stecher, director of physical education in the public schools. They are taken in the neighborhood of the city. According to an announcement of these walks, they are "arranged for the general public. Every one is welcome, on one walk or all. All that is necessary is to be at the starting place at the time appointed. The only cost is that of car fare. The walks are all about five miles, and often include some points of interest, although no special effort is made by the leaders toward that aim. No fast walking is done, as new people come each week, and might not be able to keep up. The whole aim of the walks is to get people out into the open, to learn how even a simple exercise like walking can mean strength, health and pleasure for those who seek it."

The rules of the pedestrian game are:

"Follow the leader," and so avoid mistakes and delays.

Conduct yourselves in such a way that you will always be welcome to return.

Be sparing in the collection of wild flowers, especially those depending on seeds for future growth.

Respect private grounds that owners kindly allow you to traverse, closing gates and leaving everything as you find it.

Leave no lunch boxes, paper nor other refuse about, to mar the beauty of the woods and fields.

On highways without sidewalks keep on left side of road, passing to the left of approaching vehicles.

To review, walking is an exercise that can be carried out in the house but it can be done best in all seasons out of doors. In itself, it is monotonous and even fatiguing, but with some added objective feature through which the mind can be happily exercised at the same time, it becomes a pleasurable and beneficial occupation provided it is not done to excess.

The Nervous Child

PARK J. WHITE

THOSE of us whose business it is to listen to parents' tales of woe about their children have come to expect nearly all children to be accused sooner or later of nervousness. Now, if by nervousness we mean activity, I am willing to grant that all normal children are nervous.

It is when normal activity becomes intolerably annoying to grown-ups that they are likely to exclaim in helpless anger that the child is nervous—thus making matters far worse, as we shall see. Moreover, it is sad but true that many a busy doctor finds "nervous child" a diagnosis at once easy to make and highly satisfactory to parents and grandparents—almost as satisfactory as malaria or ptomain poisoning.

Having protested thus early against branding innocent children as nervous, we must hasten to describe the child who really *is* nervous, the child who is to be the object of our discussion. The general condition may be defined in two words: abnormal irritability, that is, abnormal response to ordinary stimuli. There are all degrees of it, and it varies with the age of the child. Details will therefore be given for different ages. Some—very few—are born nervous. Others—in later life—achieve nervousness. Others—the majority—have nervousness thrust upon them.

Are there such creatures as nervous infants? There are. But, thanks to the Divinity that shapes our beginnings, such infants are decidedly exceptional. It must be said that, whether they be Jew or Gentile, whether they be bond or free, the great majority of tiny babies are much like puppies or kittens: quiet when well fed and comfortable; fussy when hungry or in pain.

Reasons for Nervousness

Whatever symptoms of nervousness there are can usually be traced by the physician to some error in feeding, to too much dosing with patent cathartics or worm-medicine, or to any one of an infinite number of attempts to kill the baby with kindness. The average infant, properly breast-fed, well supplied with fresh air, not too much interfered with, will usually be found asleep or blissfully staring into space, and the relatives will boast that they "don't know there's a baby in the house."

Contrast this picture of peace and contentment with that of the baby who lives down the street. At the age of two months he has already had a stormy career. He screams and twists and kicks most of the day and well into the night. He has long ago exhausted his mother's patience as well as her milk supply. He has been offered every known food, canned and otherwise. Finally, even with proper feeding and régime, with no physical abnormality to be found, the yelling and restlessness continue. He is a nervous baby. In fact such a baby will often respond to treatment directed at that mysterious and vital part of our nervous system, the vegetative or autonomic, which is mercifully placed beyond our control. The use of "dope," paregoric, or the various soothing syrups brings only temporary relief, to be followed by worse trouble.

This picture is extreme, but not inaccurate. A large number of babies, physically normal and well fed, are of the restless type though less frantic: light sleepers, rarely completely calm and relaxed, who quiet down rather exasperatingly when picked up or played with. This leads the young father, who has not spent his day amid the distracting household routine—who may even think he works harder than his wife—to make unpleasant remarks about women spoiling babies and to take matters into his own hands. He roars at the baby with perhaps a shake or two, then leaves him to "cry it out," finds that the "crying out" process lasts indefinitely, and finally goes outside for a quiet smoke, leaving his wrought-up ladies to retrieve the wreckage.

Such upsets are critical. If squabbles over discipline (or anything else) are the rule, we need not expect to find the calm and peaceful baby in such a home. For babies are quick to respond with whining and irritability to the high-tension atmosphere created by whining and irritable parents. Daily we doctors see the vicious cycle: nervous parents, fussy baby, baby's fussiness making parents more nervous, etc.

The exceptions which we encounter are positively welcome—namely, sensible, congenial parents who could accurately be said not to deserve the screaming babies that provide the only disturbance in a household otherwise entirely peaceful.

We come now to consider excessive irritability in children from two to six years old: runabout or preschool children. Heaven seems to lie about us in our infancy, but many of the acts of early childhood are strongly suggestive of quite another place. The little child is of the earth earthy, except when he is asleep. He demands more than his share of attention. He dislikes taking naps. He wakes up cross. He dislikes many of the things he ought to eat. He loves to tyrannize. Small wonder that we parents look back on the infancy of our children and say with Isaiah—"I have nourished and brought up children and they have rebelled against me."

The Nervous Runabout

Now, there is nothing abnormal, nothing "nervous" about any of this. But consider that some of these annoying traits have increased, some thirty, some a hundred fold, and there you have nervous children. These are the children who are never still a minute; who can't or won't eat; who can't or won't sleep; who resist and whine at the most moderate request; who quickly lapse into uncontrollable sobbing or giggling; who are excessively shy or disagreeably forward; who browbeat their smaller companions and idolize their larger ones; who have most harrowing night terrors; who shrink from darkness, solitude or crowds; who carry both affection and resentment to excess; who weep inconsolably at anything resembling a sad story; who develop habits of sniffing, grimacing, stuttering, lisping, thumb-sucking, nail-biting, air-swallowing, breath-holding, eye-twitching, head-shaking, nose-picking, teeth-grinding, dirt-eating, clothes-wetting, bed-wetting, masturbation, or even vomiting.

Now why, in the name of peace, is a nervous child? Nothing but good hard work and real cooperation between those interested can ever answer this question. Mind, we are not thinking about the mentally defective or the morally delinquent child. Such extreme cases require separate consideration. We are thinking only of the nervous, or excessively irritable, child in other respects quite normal. We cannot even consider the above catalog of symptoms in detail.

Child May Be Sick

All doctors are familiar with the type of mother who is thoroughly competent to care for young infants, but who seems utterly unable to manage older children. The reason is plain. She is no longer automatically following feeding instructions. The care of morals and of temperament requires a far more delicate adjustment of love and common sense than does that of stomach and bowels. No wonder that bungling management so often results in the misfits known as nervous children. No wonder that the mother receives credit or blame for the results.

Clearly the first essential, as in infancy, is a thorough, painstaking history and physical examination by a physician. For, Mother Eddy to the contrary, many a child has been dubbed "high-strung," "nervous," "just like his father, who was always wiry and fidgety," when the whole trouble has been simply that the child has been feeling bad.

When a child has slight fever, vague pains (likely to be miscalled growing pains), a persistently poor state of nutrition, due perhaps to pyelitis or to chronic tonsillitis, what right have we to expect better behavior from him than from ourselves under like circumstances? How commonly we see children who begin to gain weight and to improve physically, begin also to gain self-respect and to improve morally and mentally when physical defects are corrected.

George

Little George, a boy of five had suffered unnecessarily from rickets in infancy; his mother was very diligent about trifles, very indifferent about fundamentals. For a number of months he had refused solid food, but had accepted both milk and ice cream. By main force involving scenes which spoiled the family's whole day, George Sr. occasionally managed to "shove in some oatmeal," as he described it. Eventually George drove them to seek medical aid. His parents announced—in his presence, mind!—that the boy had "got beyond them, was a holy terror, and had got so nasty that his mouth twitched all the time and he was sure to go into St. Vitus' dance."

When I mildly suggested that they should not say such things in his presence, they replied that they "only did it to shame him." Of course the same remarks had been repeated to neighbors and friends and to whatever sympathetic audience could be found, with the result that George lived up to his reputation perfectly.

The examination had scarcely got under way when the cause of the whole sad story was obvious: a broken snag of an old lower molar tooth, in the center of a mass of pus and dead tissue. He had not dared to complain of it, for his older brother had told him how much dentists hurt. The shamefaced parents soon had the undeserved delight of seeing George's face stop twitching, his "nastiness" disappear, and his general condition improve.

Now, the converse of this situation often obtains. That is, the parents are often convinced that the nervous child is really an angel suffering from some disease that does not exist. So firmly are they convinced that they often insist on operations being performed—usually circumcision or tonsillectomy—operations of the greatest benefit if really needed, but which will not relieve an imaginary trouble.

Or, perhaps yielding to grandma's importunities, they will try to convince the doctor that the child has worms, which may or may not become active when the moon is full. If the doctor fails to be convinced after careful stool examinations, grandma may eventually drive them to some doctor who will give the hapless child "worm medicine."

Once convinced that there is no physical basis for the nervousness of a certain runabout child, the search must be begun for the apparently infinite number of things that may be wrong with the child's home life. As usual, it is safest to blame the overworked, underpaid mother. Why? Because she is the child's environment.

Mothers in general have several grievous faults, and grievously do mothers answer them. First and worst of all, they talk too much. The child, being the chief object of interest, is most talked about, whether to neighbor, doctor, friend, or foe. Then indeed he sees himself as others see him—a gift which Burns was foolish to ask for—all his nervousness, his smartness, his cuteness, his fatness, his thinness. All too often he learns from his father's conversation what a good fighter he is, what a will of his own he has—a reputation which he is charmed to live up to.

Mary

Little Mary, 6 years old, in thirty seconds after entering my office, had pulled down many of my books, upset my scales, and scratched my desk. Her mother cried, "Stop that, Mary!" following through with an unheeded slap.

"I can't, I'm nervous," replied Mary, full speed ahead. She had summarized years of mismanagement and had made the diagnosis.

Almost every doctor in taking a "history" begins with the question, "What's the matter?" thus getting the "chief complaint" at the start. If the chief complaint about a child able to understand what is said be "nervousness" or perhaps twitching or bed-wetting, the child should by no means be allowed to hear the rest of the discussion. It would only dignify his fretfulness, his tyrannizing, his irritability. One may criticize the Eddyites for wilful, one might say criminal, neglect of the sick child, but their shibboleth "All is harmonious" is splendid medicine in the prevention and treatment of nervousness in families.

Selma

Think, for instance, of little Selma, aged ten. She was so in her element in a doctor's office that she came mournfully up to my desk, laid her hand limply on her bosom, and said, "Oh doctor, my heart burns me so I can hardly sleep; I'm all the time coughing up phlegm, and everything I eat just turns against me; all I can eat now is just a teeny piece of toast for breakfast."

How many doleful complaints by the elders do you think that represented? How many doses of patent medicine? I became very unpopular when I asked her to go outside and think of some one besides herself while I talked with her mother.

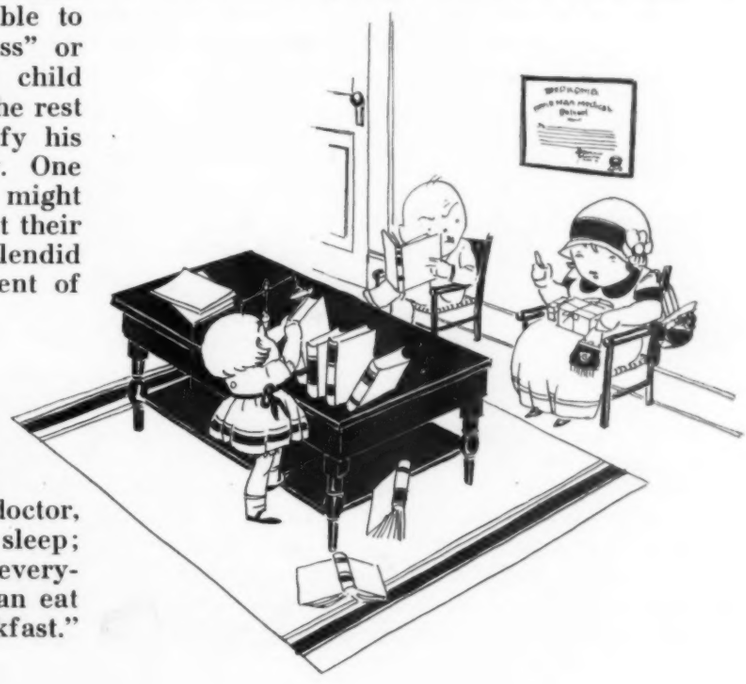
Not only does talking *about* children often lead to one or more symptoms of nervousness, but so also does talking too much *to* them. When a child's day consists in the execution of or resistance to a rapid succession of commands, he is likely, if "high-strung," to take refuge in one or more neurotic revenges.

Jane

For example, 6 year old Jane was officially pronounced "high-strung" by all who knew her. She and her father and mother lived with her mother's parents and two aunts—a considerable number from whom to receive orders. Jane had never been allowed the luxury of a plan of her own. Her downsittings and her uprisings, her kissings and her huggings, all were ordered for her. What was overlooked by one adult was sure to be remembered by another. But Jane stood off the entire lot, evoking the admiration, if not the affection of her physician. For she had once had a convulsion which she had heard described a thousand times. And now, she was "subject to spells which came on whenever any one crossed her," consisting of momentary loss of consciousness, rolling up of the eyes, and the emitting of a peculiar little scream.

When her parents moved into an apartment of their own and were persuaded to leave Jane more to herself, the "spells" very soon stopped. To her, probably subconsciously, they had meant a refuge from her badgering relatives, a very present help in time of trouble.

Some few children constantly bombarded with unnecessary commands or with unneces-



sary blows have acquired an immunity to such attacks that is little short of marvelous. Exasperated mothers have threatened to cut their children's ears off; to have the doctor pull their tongues out; to send them to the hospital; they have slapped, pinched, and shaken their offspring in a way that would have brought certain lawsuit on any one else; but the mother-proof children have gone blithely on their way.

For youngsters soon realize that such a mother's words mean no more than her slaps. Such children may be "bad"; they may be unruly. They would be stupid indeed if they were not. But nervous they are not; for they have no nerves.

Contrast the Spartan indifference of these children with the bewilderment, the terror, the tantrums, the "spells," which such treatment produces in more highly sensitive children, and you cannot but wonder at how few nervous children there are.

Many parents, even those inclined to give real thought to the rearing of their children, do not seem to know what they should expect of children. Some who have read many books become nervous themselves if their children don't pass exactly the right tests at exactly the right age. Others so underestimate the capacity of their children that they insult their intelligence, eventually to find themselves behind the children they should be leading. Often in talking to some one about a child, they think that a low tone or a spelled out word means complete concealment. It means only added spice and interest. Often they think that a vague threat or a promise never to be fulfilled carries some weight. Their awakening will be sad.

When the Nervous Child Is Sick

We have seen that overexcitability may easily be produced in children by disease so mild that it can readily be overlooked. We have seen that any or many of the symptoms of nervousness may result from apparently minor errors in the management of well children. What of the effect of actual, severe sickness on the nervous child?

A child's nervous reaction to disease is determined largely by his behavior before its onset. The placid, genial, gentle disposition that seems almost to sanctify some children stands them and every one with them in good stead when sickness comes.

The restless, finicky, fidgety, perhaps brilliant child, is likely to take sickness as hard as he takes health. His temperature soars to 105 in an illness of only moderate severity. He is prone to become delirious. He vomits his medicine. He shrieks at the arrival of the gentlest doctor. He demands twenty-four hour duty from his anxious mother, and will allow no one else to come near him. The whole house revolves about his sickness. When the telephone rings, he listens to all his symptoms being discussed. He is every inch a king. He makes convalescence a period of miserable peevishness that only courts relapse.

Contrast this picture with that of the same sort of child in the hospital. There compliance is the rule. Nurses and doctors alike expect obedience and nearly always get it, without the use of many words. The child, instead of being the "whole show," is merely a part of the impressive machinery of getting well. The only time that tears and trouble may confidently be expected is during the hour when children may be visited by the parents.

Now certainly no one, least of all a doctor, would urge hospital treatment for any children except those who absolutely need it. The majority are and should be treated at home. But most doctors have seen children who wet themselves, refuse to eat, or have habit spasms of all sorts reform as if by magic after a short period of hospital care, and have seen sick children resist all home treatment, only to obey the doctors and nurses in the hospital as if hypnotized.

Sam

An excellent, though rather unusual, example of how readily a child's nervous reaction to sickness may be controlled is afforded by little Sam's whooping cough. Sam was two and a half. Coughing, whooping and vomiting were now part of Sam's routine; and he vomited both carelessly and thoroughly. Everything that I had ever done, heard of, or read of, that might prevent vomiting, I had done to Sam.

One day I had the good fortune to be on the premises when one of Sam's paroxysms got under way. His mother, whose nerves, as she said herself, were on edge, at once began to flutter wildly about, screaming, "Where's a basin? Get a rag"—both of which essentials arrived too late. When the mother was persuaded to take a rest, and a very high type of grandmother came to take charge, basins and rags were stationed about the house, Sam's coughing started no excitement, the basins remained empty, and Sam gained weight.

The problem of nervousness in older children must not be overlooked if this discussion is

to approach completeness. Three factors now assume major importance: school, friends and sex.

How often the teacher is blamed for nervousness in a school child! Here at last is some one with whom the mother can divide responsibility! Whether the child has been nervous previously or not, if for any reason his irritability increases on going to school, what is easier or more natural than to blame the school?

Willie

Now, although teachers and pupils may often be more sinned against than sinning, it is nevertheless true that they may properly be held responsible for many of the queer habits, "spells," and fears of which the nervous school child is made. For instance, Miss Smith makes fun of Willie in class, causing Willie to blush and tears to come into his eyes. The tears are of course noticed by the other boys who later dance around him singing "cry baby cry."

Willie promptly resolves that he will no longer be taught by Miss Smith or be in the class with those boys. Being one of a large family he says nothing of his trouble at home, but is often found by his mother crying to himself. It requires a struggle to get him to school. He lies in bed so late that his morning bowel movement is deferred; he becomes constipated and has occasional attacks of nausea. On his way to school he must touch certain cracks in the sidewalk with the tip of his shoe, for if he touches them all, that means he will soon have a new teacher. But he says not a word, for that might bring ridicule. He becomes queerer and queerer, especially as he hears himself called queer, and Willie is a confirmed nervous school child unless some kind fate intervenes.

Happy is the older child who makes the right sort of friends and who does not carry friendship to the point of foolish adoration—that is, to the point of having a "crush." Nervous, queer children of grammar and even high school age are particularly likely to select some one of their own sex, and, forsaking all others, cleave only to that person. All of the adored one's habits, attitudes, sayings, are carried home and there rehearsed to the disgust of the home folks. These in turn are considered vastly inferior, and soon enough complexes appear to stump both Freud and Booth Tarkington.

What makes most for nervousness in older children are occurrences, unimportant to others, vital to them, which make them seek refuge in themselves, drive them as it were to the wilderness and solitary places, there to nurse their grievances. The more intense the nervous makeup of the child, the more violent will be his moody outbursts, perhaps of gloom, perhaps of affection, perhaps of religious zeal, perhaps of temper, perhaps even of suicidal tendencies.

And it is just at this inopportunely self-conscious time that the real influence of sex discoveries comes to take possession. The nervous child who takes health and sickness, joy and sorrow so hard takes sex hardest of all. His discovery of and interest in bad sexual habits, his remorse and desire to do penance, his futile attempts to forget smutty stories, his attraction for all the words relative to sex which he can find in the dictionary—all these things set him apart, at least in his own mind, and so increase his sense of isolation that moroseness, inattentiveness, and queer conduct of every variety serve to brand him as nervous, and in him we have the last and most difficult object of our discussion.

Rich Child vs. Poor Child

No one doubts that it is the child's surroundings which really determine whether or not he shall be nervous. And no one doubts that it is money which determines the nature of his surroundings. There are several dangers which beset rich children which do not beset the poor, dangers which begin in infancy.

A certain well-to-do infant yelled and lost weight in spite of heroic efforts on my part. A little detective work revealed that an opinionated old woman who really had the job of following my instructions had greatly diluted the formula because she knew the baby's poor little stomach couldn't stand it so strong; she had given castoria twice daily and castor oil once a week (watching the bowels) and had succeeded in convincing the family that the baby was nervous. When the mother took charge of the feeding the nervousness vanished with the hunger and cramps.

The disastrous effect that the wrong sort of nursemaid may have on older children need hardly be mentioned. Occasionally in the park or in a wealthy neighborhood one may see and hear a variety of mistreatment of the children of the rich: threats of bugaboos, big black men, hell fire, all sorts of thoughtless stories sure to reap a harvest of concealed childish worries and perhaps of real nervous manifestations.

Now, wealthy mothers need not be condemned for having some of the burdens of child-care lifted by persons paid to do so. In fact, if they maintain careful supervision over the nursery, if they really function as mothers, so that the children look to them rather than to outsiders for help and guidance, one can only congratulate them that they are able to escape mere irksome routine. In a few cases, it is sad but impressive to see some really nervous children change for the better when their mothers, themselves enjoying the expensive luxury of nerves, go away for a rest, leaving sensible, competent women in charge.

Finally, the rich child need not be a "poor little rich child," oppressed with toys, cleanliness, and caretakers. But if he is, he is in a

sorry state indeed, and a certain victim of nervousness. If, as is not infrequently the case, he is an only child, he is the more to be pitied. For the badgering and bossing of other children is as nothing compared with that of grown-ups. The best possible treatment for the nervousness of an only child is another child, who is bound to dilute attention.

To the observer of nervousness in children, the children of the poor have the doubtful advantage of being left pretty much to their own devices — which may include falling off the fire-escape or getting run over. But when such children are nervous, they present quite the most difficult problem of all. For who can blame the mother of five or six small children, with all the washing, sewing, cooking, cleaning to do, for greeting her pestery, whining child with a shrill "Shut up and get out of here?"

The children of the rich are less often exposed to nervousness; the children of the poor develop a high degree of immunity to it. The same, by the way, applies to actual disease. But once this immunity breaks down and the poor child falls a victim of nervousness, it is obvious that to change conditions for the better is out of the question without the aid of social workers and perhaps of institutions.

So much time and thought has been devoted to the nature and origins of nervousness in children that the methods of preventing and even of curing it must have suggested themselves from time to time. A number of essential principles, whose practical application must of course be adapted to the individual case, are given above.

The tenth commandment needs further explanation. Formerly, too little was told children about sex. Nowadays, the tendency is to say too much. The best way to undertake the prevention of sex neuroses in children is for the parents to learn and then teach the child a knowledge of reproduction in plant and lower animal life. This should be a part of that study of natural history which can so easily be made fascinating to any normal child. It can then lead naturally to a matter-of-fact explanation of anatomical and physiological facts applying to human beings. This is a far better process than the inevitable alternative of children getting dangerous, false ideas on their own account.

Giving them pets, like tadpoles, rabbits and guinea-pigs, having them read such books as "John's Vacation," "The Doctor's Daughter," or Fabre's "The Bee," will be of the greatest value. It is simply the application of the fundamental principle of psychanalysis — turn on the light and the subject loses its terror.

In no condition to which children are subject does prevention count for so much more than cure. Once a child has developed one or more of that great catalog of symptoms that constitute nervousness, the greatest hope of cure lies in the cure of the physical trouble that may be responsible. Failing this, the child's environment must be changed, either by purging the house of nervous adults, by sending the child away for a visit, by providing new companions, by putting him in a new school if the old one has been really at fault, by putting him to bed for a rest cure (provided this does not, as it may, add to his nervousness).

Similia similibus curantur—like cures like—is a principle even less applicable to nervousness than to sickness. The cure for nervousness is peace of mind, as the cure for fire is water. When our homes are so ordered that harmony rules instead of discord, hope instead of fear, we may well be thought worthy of the high calling of parenthood.

TEN COMMANDMENTS FOR PARENTS

1. *Be sure that the child is in good physical condition. Nervousness should be the last diagnosis made.*
2. *Never let the child hear you or any one else talk about him.*
3. *Make few requests and have them obeyed, instead of many requests that are not followed up.*
4. *Remember that a child always knows more than the proudest parent thinks he does. Keep him occupied.*
5. *If you must worry about your child, don't let him see it. He looks to you for strength, not weakness.*
6. *Never say, "Boys will be boys." It covers too many sins.*
7. *Never hire anyone to do the actual bringing up of your child. Try to fit yourself for the task.*
8. *Enter into your child's fun just as much as into his discipline. Otherwise you will scarcely know each other.*
9. *Know all about your child's teachers and his friends without seeming to interfere.*
10. *At the proper time, talk to your children—father to son, mother to daughter—of sex, as naturally as you would of digestion.*

The following books are recommended:

1. THE NERVOUS CHILD, by H. C. Cameron. Oxford Press.
2. NERVOUS CHILDREN, by B. R. Tucker. R. C. Badger Co.
3. THE SOUL OF A CHILD, by Edwin Bjorkman.
4. THE DOCTOR'S DAUGHTER, JOHN'S VACATION, CHUMS, LIFE PROBLEMS. Published by American Medical Association.

Moles

NORMAN TOBIAS

ALMOST every one can boast of a brown or black mole on the skin. As long as a mole does not disfigure a person, he usually pays no attention to it; in fact some individuals are proud of moles and regard them with the greatest affection. Moles are usually present at birth, although sometimes they put in their appearance later. Although of no use, one is willing to put up with them, except occasionally when they threaten life by becoming transformed into cancers.

Origin of Birthmarks Obscure

People have always been interested in the origin of birthmarks. In ancient times, they were considered the work of evil spirits, and ill-tasting potions were given to dispel the little green-eyed monsters. In the middle ages, astrologers thought that moles and blemishes were due to a supernatural action of the moon and stars upon the skin. Some went so far as to attempt to read one's character by studying the arrangement and form of the birthmark.

Many persons even to this day are superstitious about these growths, and our grandmothers can tell weird tales concerning them. A good many women consider them due to emotional impressions of the mother on the unborn babe. When a child is born with a birthmark, they attempt to blame it on some fright, worry, anxiety or other pernicious state of mind which reacted on the mother while carrying her precious burden.

Of course, these theories are not taken seriously by physicians. Although they are not quite sure why and how they occur, there are several reasonable explanations. One of them is that in the complex process of growth and development of the skin of the embryo, a certain group of cells become snared off from the rest, continue to grow and produce these peculiar blemishes. Others believe that injuries to the fetus as it grows in the womb are responsible. Regardless of their exact cause, doctors know of no way to prevent their occurrence.

Moles sometimes assume a warty or hairy appearance. The face, neck and back are the usual locations but they may grow on any part of the body, and, once present, usually remain stationary and show no tendency to disappear or decrease in size.

Every pigmented mole whether it is yellow, brown or black represents an increased amount of pigment called melanin. Melanin is normally present in the hair, choroid coat of the eye and in the deeper layers of the skin. Just as hemoglobin colors the blood red and lipochromes color the fat yellow, so does melanin give color to these special tissues. The skin of the Negro contains large amounts of this pigment. The tiny granules of pigment vary in color from light yellow to jet black.

The exact origin of melanin is a disputed question; its composition is complex and among other things consists of carbon, hydrogen, oxygen and sulphur. These ingredients in the proper combination and under the right conditions are very explosive. The fact is, therefore, that every pigmented mole represents a potential powder plant. A stimulus in the form of local injury or irritation is the torch that blows up the works and as a result cancerous growths called melanomas are produced. These tumors have a tendency to spread to all parts of the body and to produce death.

Danger Signs in Moles

All pigmented moles do not become cancers; if this had been the case, every one would have died long ago. Although only a small percentage of moles become malignant or cancerous, nevertheless all pigmented growths should be watched, especially by those past middle age. The dangerous moles are the jet black ones. Collars, corset stays, garters, shoes and other garments and articles in daily use are frequent sources of irritation.

How can one tell when a pigmented mole threatens to become dangerous? The change is sometimes slow and insignificant; sometimes very rapid. The warning signs are these:

1. A gradual increase in the size of the growth.
2. A deepening or spreading of the color.
3. Beginning ulceration.
4. Pain or soreness in the mole.

The occurrence of one or more of these signs should bring the patient to his or her physician immediately. Even then it may be too late as, in rare instances, the cancer may spread before any marked change is apparent to the naked eye.

Every pigmented mole is a sleeping dog, and every one should make it a rule never to irritate, rub, pick, scratch a mole or attempt its removal. The old adage—Let sleeping dogs lie—is applicable. Moles should either be left alone entirely or if treated should be treated radically. A physician is the best judge as to the necessity and form of treatment.

Mothers of the World

A good natured young mother of African descent and her cunning pickininny. Their home is in the West Indies.

Mother and daughter are Mexicans, but the doll is too much of a blonde to be a native. Note how the little mother has tied her doll in the identical position that she occupies in her own mother's shawl.

Photos by Ewing Galloway

Photos by Ewing Galloway

Their ancestors built up the highly civilized state of the Incas, later destroyed by the Spaniards. Mother and babe are Indians from Peru.

The gypsy trail does not call this Roumanian mother. She lives in a tent to save rent and works for wages in a New Jersey factory. Although these people live like gypsies and resemble them, they are not even distantly related to the nomad tribes.

The Story of Venereal Diseases

C. C. PIERCE

DURING the past three or four years everybody has noticed one or more articles in newspapers or magazines that refer in plain words to certain diseases not previously discussed in public print.

The chief reason why people used to be afraid to talk and write about venereal diseases was because but few knew what to say. Some of our knowledge, of syphilis particularly, is very recent. There has always been a general idea that to talk of these diseases indicates a corrupt mind or one that dwells on improper sex questions. In fact, it was considered "not nice" to mention venereal diseases in polite society. There was no easy way to get accurate information about sex matters and venereal diseases, so children, young people and grown-ups also were told many things about venereal diseases that were untrue. One of the most common of these errors was to the effect that gonorrhea is no worse than a bad cold, and that most young men would contract it because they had to sow their wild oats.

The doctrine of sex necessity was also responsible for the growth of organized vice interests stimulating and extending prostitution for financial gain. Many decent citizens closed their eyes to prostitution because they believed that young men had to have a sex outlet, although they never thought the same thing about their daughters.

Many states through the operation of laws now prevent or declare void the marriage of persons infected with venereal diseases. Twenty-eight states have such laws now and similar laws are pending in several others.

Quacks Flourished

This was the era of the quack doctor who promised to cure "private diseases of men" for a lump sum payment in advance, and once the payment was made the so-called cure was soon completed. Of course, this sort of quack seldom cured any one, but he got the money just the same.

During this period of ignorance it was easy for dishonest medicine makers and quacks to fleece victims and cause untold mental anguish to those who experienced a perfectly normal experience, such as for example a seminal emission during sleep. From these remarks one can realize what a difference it has made to the world to be able to find out the truth about venereal diseases and its related problems.

General ignorance of these diseases existed until the year 1917, when this country entered the World War.

The government decided that all men between 21 and 31 years old should be enrolled as soldiers, unless they were physically or mentally unfit to fight, and the doctors had an opportunity of examining about 4,000,000 men. The best feature of this opportunity was that the men examined represented the country just as it was: the rich and poor, black and white, East, West, North and South, city and country, ignorant and educated.

It was found that practically all classes and colors showed a certain percentage of infection with venereal diseases; in other words venereal disease was found to be a national problem. The percentage of infection of the men from different states varied considerably but the average rate of infection for the whole United States was, for the second million men examined, almost 6 per cent. This number of infected men was discovered without the examining doctors using the known laboratory tests to discover disease, but by physical examination only.

Those in charge of recruiting the army and navy resolved to take every precaution to prevent a further spread of venereal disease. This resulted in the development of a program for preventing the spread of venereal diseases among soldiers which caused the U. S. forces to have the lowest venereal infection rate that has ever been known among any large group of men. Even with the low rate of infection with venereal disease, our army had enough cases to make venereal diseases the greatest single cause of disability.

From September 7, 1917, to November 15, 1918, there were 203,054 cases of venereal disease among the troops in the United States. Of these cases only about one sixth were contracted after reaching camp; the other five sixths being brought into the army from civil life. To treat all these men sick with venereal diseases cost a great deal of money, and this is one of the ways that the problem of venereal diseases affects every single individual in the United States—he helps pay the bill. Those infected not only pay the bill in money, but in liability to sudden death, in sorrow, remorse, physical suffering, and most important of all in race deterioration.

It was these facts—the amount of disease and the cost—that were needed to awaken the country to the fact that while everybody was going "Sh—sh—" when gonorrhea or syphilis was mentioned, we were letting a lot of little germs

that can only be seen with a microscope get the better of an otherwise highly intelligent nation.

The U. S. Public Health Service took action early in 1918. The surgeon general sent a telegram to each of the forty-eight state health officers stating that to control venereal diseases was the most important single thing that could be done at that time to help win the war. He said that doctors should report to the state health authorities those people who had venereal infections; and that means for curing such persons should be provided and if necessary they should be quarantined. He also suggested that a regular campaign of publicity be conducted.

That was the idea! Tell the people the truth about the venereal diseases. Let them read about gonorrhea and syphilis in the magazines and newspapers. Advertise them to the public as enemies of the nation that must be controlled, in order to win the war quickly.

Prior to that time six of the forty-eight states were requiring that gonorrhea and syphilis be reported as dangerous infectious diseases. Not much was being done, however, to control the diseases when they were reported, and in forty two of the states there was no way of finding out how many cases were present or where they were located. During this present year venereal diseases must be reported by doctors as dangerous communicable diseases everywhere except in the District of Columbia.

The interest in venereal disease control aroused all over the United States during 1917 and 1918 gave forward looking men a chance to bring this important question before Congress and on July 9, 1918, Congress passed a bill which recognized venereal disease control as one of the duties of the national government. This bill created an Interdepartmental Social Hygiene Board and established a division of venereal diseases in the U. S. Public Health Service. It also made an appropriation of public money to be used in assisting the states to control venereal diseases and for other purposes specified in the bill. This action by Congress was one of the most important pieces of legislation passed during the war, because it enabled the state boards of health to secure money from their own legislature for a similar purpose and has put the control of syphilis and gonorrhea on a permanent basis, so that they can be handled just the same as are other communicable diseases.

Four Venereal Diseases Exist

There are four venereal diseases—gonorrhea, syphilis, chancroid and gangrenous balanitis. Each one of the diseases is caused by a special germ which is just as different from the germ of any of the other so-called venereal diseases as are turnips, beets, potatoes and radishes. No one disease can "run into" or cause another disease, so if any one ever has both syphilis and gonorrhea at the same time, or any combination of the four venereal diseases, each disease is the result of separate infections and one disease did not turn into or cause the other, although both may have been contracted from the same person.

For many reasons it is unfortunate that we have formed the habit of grouping these four diseases together under the one general term of venereal diseases because they usually first infect the genital organs. Chancroid, gangrenous balanitis and syphilis all start out as sores, but the first two never get beyond this stage and are therefore relatively unimportant.

Both syphilis and gonorrhea are passed from one person to another by intimate physical contact between a well person and an infected one. Usually this contact is personal and not through intermediate objects such as door knobs, toilet seats, bedding that has been washed, or any dry object. Of course, razors, shaving brushes drinking cups and similar moist objects used by a well person shortly after use by a syphilitic may transmit the disease germ.

No One Is Immune

In the case of nearly all other communicable diseases some persons seem to have better resistance to certain diseases than do other persons. This rule does not hold good with gonorrhea and syphilis, however. There is no evidence to show that any one, no matter how strong and healthy he may be, has any immunity to either syphilis or gonorrhea, in case of actual exposure to the infection.

While strength and physical vigor do not protect one against acquiring gonorrhea or syphilis, neither do innocence and morality give absolute protection. Myriads of women have acquired syphilis or gonorrhea from their husbands during legitimate sexual contact; untold numbers of innocent young women and children have contracted syphilis by a kiss; thousands of doctors and nurses have acquired these diseases through administering to the infected; untold numbers of babies have acquired syphilis from their parents before birth, or gonorrhea at the time of birth.

And yet some people think gonorrhea and syphilis are punishments for sin. This moralistic idea has done more harm and has hampered efforts to control gonorrhea and syphilis to a greater extent than any other one mental attitude toward venereal diseases. Don't get the idea that immorality is being approved by this statement; far from it, because immoral sex relations are responsible for the continued perpetuation of gonorrhea and syphilis. But more rapid progress will be made when good people cease to class all who are infected with syphilis or gonorrhea as renegades, libertines, and sinners suffering their just deserts.

The same individuals who believe venereal diseases are sent as a punishment for sin, probably think that if gonorrhea and syphilis were wiped out, immorality would increase. Stating this in a different way, they believe that the fear of contracting a venereal disease deters men and women from immoral relations. There is no evidence to show that fear of disease has any appreciable influence on sex relations.

Fear of Disease Has Little Influence

Ashburn in his studies of factors that caused a low venereal rate among the American soldiers in Europe found that 34 per cent. of 13,648 white soldiers who replied to a questionnaire he sent out had abstained from sexual intercourse while in France during a period ranging from eight months to two years, and averaging about ten months. The most common reasons given by these men to account for their chastity were loyalty to a wife or sweetheart at home, or a resolution to abstain made before leaving home and pride in keeping the resolution. The factors that kept men chaste were, therefore, character, religion, love, loyalty and self respect.

Then why carry on a program of education for the general public, if fear of disease is not going to deter people from exposing themselves to infection? This public health educational work is not to arouse the emotion of fear, but rather to develop stamina that comes of knowledge. Furthermore if persons do expose themselves to venereal diseases through immoral sex relations, let them do so with their eyes open, and with full knowledge of the consequences.

Knowing the seriousness of venereal diseases, how they are contracted, how hard it is to get cured, the effect on the whole life of the person, and the possibility of transmitting syphilis to future generations, the innocent can be protected by preventive measures taken by the infected person. At the present time thousands of people with venereal diseases are infecting innocent persons without knowing they are doing so. If they only knew, there is not one person in a million that would deliberately infect an innocent person with gonorrhea or syphilis; these innocent infections now occur as a result of ignorance, not viciousness.

Gonorrhea Is Very Common

Gonorrhea is probably the most widespread disease in the world with the exception of measles. The disease is an infection by a germ called the gonococcus which grows on and in the mucous membranes, usually of the genital tract. Occasionally it infects the conjunctiva, or membrane of the eye, and sometimes the disease extends through the body and affects the lining of the heart and of the joints. Gonorrhea is an inflammation of the part affected from which there is a discharge of pus.

From historical documents it is known that gonorrhea existed thousands of years ago. Many think this disease is referred to in the fifteenth chapter of Leviticus where Moses gives minute directions for the cleansing of an issue from a man or woman. Certain symptoms are described on an Egyptian papyrus of about 1350 B.C. which probably were due to gonorrhea. In the medical writings of the Middle Ages, gonorrhea is described and is often confused with syphilis.

Certain doctors, however, recognized gonorrhea as a separate disease long before Dr. Neisser discovered the gonococcus in 1879. The microscope then became of great value in diagnosing and treating gonorrhea and has held this important relation to the disease ever since.

However, the treatment of the disease did not improve in value as might be expected after discovering the cause. One reason for this is that gonorrhea cannot be transmitted to rabbits, monkeys or any animal, so that study of the disease is difficult.

To Recognize Disease

This germ that causes gonorrhea is a very minute round vegetable cell. It cannot move about, but it makes up for this handicap by multiplying at a tremendous rate in the proper soil—the human genital tract. Even with a high power microscope no one can see the gonococci until they are stained with an anilin dye stuff. When these germs are found in the discharges of one suspected of having gonorrhea, it is positive proof of the disease.

No other positive way of recognizing gonorrhea exists and a patient that is being treated for gonorrhea by a doctor who does not use the microscope or have a laboratory worker do it for him is getting as poor service as that given by a quack or faker, and is just as liable to experience the disastrous results arising from an uncured case.

No one knows exactly how widespread this disease is, but estimates made by physicians of experience can be accepted as very nearly the truth. Gonorrhea can be cured, and a person can have it more than once, so figures in regard to the number of cases usually apply to those that have or have had the disease some time during their life. Gonorrhea also may remain dormant for long periods and then light up again, so many men who think they have had the disease more than once have really never been cured and their frequent attacks are only active stages of the one first infection. These facts must be borne in mind in considering estimates of the number of men that have gonorrhea at some time in their life.

The usually accepted estimate for the United States is from 40 to 60 per cent. for men. Very many more men than women have gonorrhea, and it is more difficult to estimate the rate for women as it varies more in the different social castes. Among prostitutes, gonorrhea is pres-

ent almost up to 100 per cent., while among unmarried women and girls of good character there is practically no gonorrhea.

While a man is harboring the germs of gonorrhea many things may happen to him, a few of which will be mentioned. A stricture may result from scar tissue being formed in the urinary canal as a result of the inflammation. This interferes with the free passage of urine and must either be dilated by the doctor using instruments or an operation must be performed, the scar tissue being cut and an effort made to have the wound heal up in such a way that the new scar will not tend to close the canal.

Or perhaps a stricture does not result but the infection travels back through the urinary canal and down the connecting tubes to the testicles. This may result in damaging the testicles to the extent that the unfortunate sufferer will be sterile and can never become the father of a child, even after he is cured of gonorrhea. The germs may also be taken up by the blood stream of the body and lodge in the lining of various joints causing what is called gonorrheal rheumatism.

Through carelessness the infected man may get some of the germs in his eyes, and then if prompt treatment is not given, blindness will result. Fortunately these serious results do not occur with great frequency but the possibility of their occurring is present in every case.

Gonorrhea can usually be cured if the case is taken at the right time by a competent doctor.

Cause of Many Childless Marriages

On account of the difference in the genital structure of men and women, the general rule is that men have more pain with gonorrhea than do women. No man can have gonorrhea and not know it, but a woman can. However, it is a much more serious disease for women, because gonorrhea practically always invades the internal generative organs. The uterus, tubes and ovaries become infected, if not right away certainly at the first pregnancy, which is frequently the last.

More childless and one-child marriages are caused by gonorrhea than by any other single cause. The invasion of the internal genital organs of a woman by the gonococcus may result in the tubes leading from the uterus to the ovaries becoming inflamed and stopped up and filled with pus. This sometimes results so quickly after the marriage of an uninfected girl and a man with gonorrhea that the operation which must be done to save her life is called the "honeymoon appendicitis" operation.

In many cases the inflammation of the internal pelvic organs of the woman with gonorrhea assumes a chronic form without an immediate operation becoming necessary. Women so affected become semi-invalids and most of them ultimately have to have some operation performed. Surgeons agree that about one half of all the operations on women for "pelvic trouble" are really operations caused by gonorrhea.

If a wife with gonorrhea escapes an immediate operation, as most of them do of course, and gives birth to a living healthy child, as she should, for gonorrhea does not affect the unborn babe, there is grave danger of the infant getting its eyes infected from its mother while passing through the birth canal. This frequently occurs and blindness is the result unless immediate treatment is given the eyes. Many states now have laws requiring the immediate treatment of the baby's eyes after birth. Loss of sight from gonorrhea acquired at birth is responsible for one third of all cases of blindness in asylums and one half the blindness dating from birth.

The obvious way to avoid all these terrible occurrences is for men who have the disease not to marry until they are cured.

While it is true that gonorrhea does not have a high death rate in the United States, yet there is no single disease that causes more sickness, suffering, invalidism, childless marriages, social damage, and domestic tragedies than does gonorrhea.

Syphilis Most Insidious Disease

Syphilis is the most remarkable, the most insidious and the most spectacular of any disease affecting the human race. It is due to its own special infecting germ, which enters the body through the skin or mucous membrane at any point where it happens to be applied and which can gain entrance through an abrasion or break even of microscopic dimensions. The "germ" of syphilis is called the treponema pallidum, and is present in the discharges from syphilitic sores and the blood of persons having syphilis. It appears in the form of a sore or ulcer at the site of infection, usually on the genital organs, but frequently elsewhere, as for example on the lip, being transmitted by the kiss of a syphilitic.

Some time after the first sore develops, the disease becomes general and breaks out as a rash or eruption all over the body; at this period the ulcers in the mouth and throat are particularly infectious. Later, perhaps years afterward, other symptoms arise and may cause serious disability, insanity or death.

The germ of syphilis was discovered by Schaudin and Hoffman of Germany and was announced to the medical world on April 5, 1905. Its scientific name is descriptive; treponema indicating its corkscrew shape, and pallida meaning it remains pale even after being stained with some dye to make it visible through the microscope. The germ of syphilis is very active in motion whereas the gonococcus can make no movement at all.

Before the germ of syphilis was discovered there was no positive way to tell whether a genital sore was syphilis or not, and it was only after the general rash over the body developed that the patient and the doctor were sure that syphilis was present. It has been nineteen years since this germ was discovered and yet there are doctors even at the present time who will cauterize or burn a genital sore without first examining with the microscope the fluid that can be squeezed out of the sore. This should be done in every case of suspected syphilis, so that treatment can be started at once if the germ of syphilis is found.

Methods of Discovery and Treatment.

Arsphenamin, salvarsan or "606" was perfected by Dr. Paul Ehrlich and announced to the world in December, 1910. That is a very short sentence with which to introduce one of the greatest romances of medicine, and to give the name of a medicine that has revolutionized the treatment of syphilis.

One more important development of knowledge about syphilis was given the world by Dr. Wassermann, the year before the germ was discovered, the test for syphilis which bears his name. This test depends on certain changes which take place in the blood or spinal fluid of a person with syphilis, and it enables doctors to tell whether a person has syphilis in case he has not seen the first sore.

It is believed there are almost one fifth as many cases of syphilis as of gonorrhea, so the general estimate for syphilis would be from 8 to 12 per cent. of the population.

The late manifestations of syphilis may occur five, ten, twenty or more years after the first sore in those cases that were not properly treated and cured. Among these late disasters are listed such diseases as aneurysm of arteries, in which the wall of the blood vessel weakens and dilates until it finally breaks. If a big artery is the one affected, death of course at once results. Locomotor ataxia with its peculiar gait and helplessness is also caused by uncured syphilis. Softening of the brain, or paresis, is due to uncured syphilis. A large percentage of all the inmates of insane hospitals are there because of syphilis.

Babies Are Infected

The saddest part is yet to be told—how babies before they are born are infected with syphilis because their father and mother have the disease. What usually happens is that the father married before he was cured and infected his wife who, in turn, infected the baby before it was born. If the syphilis in the mother is a fresh infection, the child will fortunately die very early during pregnancy, thus causing an abortion or miscarriage. Women who frequently have abortions or miscarriages are usually syphilitic. If the infection of the mother is not so recent, she may carry the child to term and have it born with evidence of syphilis. If the infection is of longer standing, the child may be born with no evidence of syphilis, but develop the disease later on.

Evidence shows that syphilis is the greatest single cause of death of babies during pregnancy and within the first few days of life. All this could be avoided by proper treatment continued long enough to cure the disease. It is never too late to start treatment, which will benefit all concerned. If a pregnant syphilitic woman receives active treatment, her child may be born with no evidence of syphilis, and if the infant is then treated properly and long enough it may survive.

Early Treatment After Exposure

Prophylaxis was a word much used during the war describing what was later on called the "early treatment" method for preventing the development of venereal disease after exposure to infection had occurred. Prophylaxis used in this sense merely means cleanliness and applying certain antiseptic medicines to that part of the body that may have come into contact with the germs of syphilis or gonorrhea.

Obviously the surest method of avoiding any disease is not to come into contact with persons that have the disease. If one has not sense enough or will power enough to follow this method of avoiding disease, the next best thing to do is to try to kill off the germs of disease that may have been picked up. To discuss this subject before any group of people usually divides them into two opposing camps. Those that favor prophylaxis think it offers the solution for the control of venereal diseases; those that oppose it believe that the knowledge will increase sexual immorality and result in the moral degredation of the race.

Both beliefs are wrong. The application of antiseptics after exposure is by no means a guarantee that infection will be avoided. Careful statistics on this subject indicate that to be effective the application must be made correctly and very shortly after exposure. There is no way whereby any large number of people can be trained to use the medicine properly, and it is next to impossible for them to apply it promptly enough to do any good. One hour after exposure its value has decreased very markedly until by the tenth hour it is useless.

To those who think that information in regard to prophylaxis will stimulate immorality, it may be said that fear of venereal disease is a negligible factor in promoting morality. In January, 1919, some one said on this subject: "Medical prophylaxis must be given to keep men on the firing line, even though they be defective in morals or intelligence."

During peace times why not stay on the firing line of industry and progress and maintain our health, our morals and our intelligence?

Give the Chronic Invalid a Chance

LEVIS PRIZER

THE chronic invalid, like the poor, we have always with us. The probability is we always shall. Accidents are bound to occur and a certain amount of illness is inevitable. Such mischances take their toll of lives and leave in their wake a never-ending stream of partial or complete physical wrecks to get through life as best they can.

Recently, to form a rough estimate of how large a class these unfortunates represent, the writer charted ten houses adjacent to his own in four different towns in which he has lived. Of the forty houses thus charted, sixteen contained one or more chronic invalids.

Eddy's Studio

Crippled in body, but not in mind, this man sits at his special writing desk and sends out articles to leading magazines all over the world.

This proportion is probably too high because the town in which he now resides serves in part as a health resort. But if one were to include in this group all those whose efficiency is permanently impaired by physical defects or chronic ailments, the total would grow so large as almost certainly sooner or later to touch every one of us.

Granted, of course, that it is better to prevent disability than to cure it, the problem yet remains how to make the most of the damaged bodies that constitute so large a minority in our society. From both the economic and the humanitarian point of view this is an undertaking of the utmost importance.

Health, of course, is a relative term and even under the best conditions personal efficiency must vary widely with the rise and fall of vitality. Those of robust constitution can carry on, even during periods of excessive depression, though the sickly may be able to work advantageously only while at their best.

Even so, a great deal may be accomplished despite serious handicaps. Take for instance Herbert Spencer, who wrote his monumental "Synthetic Philosophy" during thirty years of ill health, working for the most part in periods of only one or two hours at a stretch.

Yet the tragic fact remains that very few invalids succeed in even approaching the limit of their potentialities, and for this unfortunate state of affairs others are as much responsible as the invalids themselves. Chronic illness is hard to understand. During bad spells the chronic invalid often appears extremely ill, arouses excessive sympathy and is likely to be treated with exaggerated solicitude. Between exacerbations, however, he is often neglected, the assumption being that so long as he does not complain he needs no attention. The result is coddling one day, excessive strain the next.

Even under optimum conditions the chronic invalid might find it hard to cope with the difficulties of every day existence. However, thrown in this manner from one extreme to the other he is liable to grow discouraged, his self-esteem to be undermined and he himself to become careless and irresponsible in his attitude toward life. This tendency to extremes is a thing that needs to be combated vigorously.

For the sake both of himself and those on whom he must rely, the chronic invalid should be made as nearly independent as possible. Even when he is practically helpless he should be encouraged to do what little he can for himself. In this way only is created that atmosphere most favorable for improvement. Contentment and the sense of power that comes from doing things for one's self bring better things whenever anything can.

Moreover, the fact must be frankly faced that in the chronic invalid one is dealing with a

Eddy's Studio

Not able to walk, this man opened a shop where he makes all sorts of interesting pieces of woodwork. He has found one way of conquering invalidism.

damaged machine. To attempt the impossible is to court disaster. No one would think of racing a worn-out automobile against the best product of a modern factory. The old machine may be good enough in its place but only so long as its limitations are recognized.

Must Renounce Old Life

The first step in the rehabilitation of a chronic invalid, therefore, must be an act of renunciation. A patient with whom the author came in contact some years ago was suffering from pernicious anemia, a very serious disease, and though not under his professional care the patient kept pressing him to know whether he could get well.

He was answered in some such words as these: "If by getting well you mean regaining your youth, of course not. You have suffered a complete breakdown and you can never expect to be again quite the man you once were. Still, if you will face facts bravely, carry out your treatment conscientiously and not attempt the impossible, you may yet enjoy years of comparative comfort and usefulness."

To make the most of an impaired constitution one must learn to distinguish between good and bad periods. When a chronic invalid is at his worst the only thing advisable may be to give up and rest. Better times will come. Rather than rack an already strained organism it is best to admit reasonable limitations and attempt to keep within them. On the other hand, once a bad attack is over, lazy habits cannot be too quickly discarded.

An adult chronic invalid cannot, at least so far as the practical concerns of life go, be too uncompromisingly a realist. Only a frank analysis of conditions and an intelligent study of the means at hand can overcome the handicap of disability. Consequently no energy should be wasted in comparing things as they are with what they once were or what they might be. A slower pace and a less vigorous grasp may be unpleasant realities. Very well, accept them, and with such imperfect implements proceed to build your structure.

Poor Tools Often Do Good Work

Much of the world's best work has been done with very indifferent tools. Intelligence and good judgment may be relied on to make the most of an inferior equipment. There is even a certain advantage in having a simple tool kit. If there is any comfort in this for the chronic invalid, let him make the most of it.

Naturally, any cause of depression which can be removed or alleviated should be treated in this way. Pain is the first condition of this sort.

Pain constitutes a purely medical problem and should be attacked only under the supervision of a physician, for the danger that lurks in the use of pain-relieving drugs is great. Nevertheless, every one should know that, up to a certain point, it is possible to disregard pain and that fresh air and life in the open render it much easier to endure. So the more a sufferer can live in the open air the less need there will be for anodynes.

Another chief cause of depression is isolation. Man is gregarious by nature and requires frequent contact with his fellows to keep him in a cheerful frame of mind. An especial effort should be made, therefore, to relieve the monotony that comes of too close confinement at home. Frequent visits to the sickroom are real medicine and the attempt should always be made to build up some sort of a social life with the invalid as a center.

Should Do Some Work

Yet a third cause of depression is dependence and that sense of inferiority which comes of being different from one's neighbor. Nobody likes to be different, least of all when this pecularity constitutes a serious and self-evident handicap in the race of life. So far as possible the chronic invalid should always be made to seem normal both to himself and to others.

The depression arising from dependence is certain to become exaggerated when the person thus afflicted knows that he is an economic burden to his family. Some way should then be found, so far as this is possible, to enable him to contribute toward his own support. The improvement in a patient's frame of mind that can be brought about in this way will many times compensate for the additional strain thrown upon his body.

Sometimes miracles can be performed in this respect, as the writer knows from personal knowledge. A certain physician of his acquaintance is so badly crippled that he can barely hobble about his house. Yet for several years this man has carried on an extensive office practice and been the sole support of himself and his family. At one time he was bedridden and was generally looked upon as a hopeless cripple. But, as so often happens, intelligence and perseverance won out in the end.

Hobby Always Helps

Even though neither the invalid nor his family are in pressing need of money it will contribute toward a man's self-respect to have some regular occupation. A thoroughly enjoyable hobby, such as chess or the study of birds, may serve this purpose, though some form of artistic production or benevolent or public welfare work is decidedly preferable. After all, one does not live by bread alone and a man is usually happier when he feels that he is serving some interest outside himself.

A last cause of depression is worry. This is a sin from which no one of us is entirely free. But when death or invalidism stares a person in the face, it is easy to understand how much more difficult it must be to overcome this weakness.

Yet no matter how discouraging an invalid's outlook may appear, he should never be allowed to give up hope. This may be his greatest asset. To live in the daily expectation of death is too harrowing an undertaking for even the bravest, while ofttimes hope can resuscitate a sufferer almost from the jaws of death.

One need not suppose that a chronic invalid is passé until death has actually claimed its own. Given a fair chance many an incurably ill man or woman will astonish his family not only by his vitality but by his resources as well.

Problem Is One of Salvage

Of course, the whole problem is one of salvage and must be frankly treated as such. It would be vain to expect chronic invalids to do their share of the heavy work of life. But there are many things they can do, so that actually bedridden persons have been known to become real assets to their community and to the world at large.

This is a fact that never should be lost sight of. Some of the world's most notable work has been done by seriously ill people. Indeed, an astonishingly large proportion of the world's responsibility has always been borne by men and women who could never qualify for a health show.

So give the chronic invalid his chance. There is never any telling what potentialities he may reveal.

No one knows today, for all his ruggedness of constitution, that he may not sink down among the invalids of tomorrow. As Marcus Aurelius put it, nothing is certain in this life except change. Enlightened self-interest, therefore, demands that one play his part in caring for the physically unfit, whose lives may be narrow but who, with help, may yet prove themselves useful citizens.

Scotching the Frauds

Postal Authorities Close the Mails to Three Medical Swindles

ARTHUR J. CRAMP

THE story of Uncle Sam's efforts to protect you from the quack who attempts to ply his trade through the mails would make interesting reading. Occasionally, it is true, you may be swindled through the instrumentality of the postal system, for, until fraud is proved, the mails are open to every one; but a force of wide-awake men is constantly at work investigating any complaints that the public may make regarding businesses that are carried on through the mails and that seem to be fraudulent in their nature.

These men—post office inspectors—may work on a case for months getting all the details of the scheme and gathering evidence that will justify the issuance by the postmaster-general of what is called a fraud order, which closes the United States mails to those against whom it is issued.

For years the post office has been doing this necessary and valuable work in protecting the public against every kind of fraud that may be perpetrated wholly through the medium of the mails. In investigating medical frauds the post office department calls on the Bureau of Chemistry at Washington, which has a department of Special Collaborative Investigations, with Dr. Lyman F. Kebler in charge. For many years Dr. Kebler was Dr. Wiley's efficient associate in tracking down fraud in foods and drugs; today he is doing equally valuable work in furnishing the postal authorities with the facts regarding medical mail-order frauds.

Not all the medical frauds investigated reach the stage of fraud order issuance. Those responsible for such frauds not infrequently abandon their schemes when they find they are under surveillance; sometimes they modify their methods and cease to be objectionable. The combined work, therefore, of the post office department and the bureau of chemistry affords even greater protection to the public than the actual fraud orders issued would lead one to infer. In order that the public may learn what its government is doing to protect it against medical swindles the American Medical Association has published a pamphlet * of eighty-six pages detailing the good work done in this connection and describing the schemes of twenty-one medical mail order frauds.

Within the last few months the postal authorities have closed the mails to three medical concerns, each engaged in a disreputable business—a fake radium company, a fraudulent consumption cure and a cancer cure swindle.

The Fake Radium Cure

The International Radium Company.—The fake radium concern against which the postal authorities issued a fraud order last February was conducted by one J. Bernard King, who also did business under the somewhat imposing trade names, International Radium Company and Radium Products Company. In August, 1918, the writer of this article received from King, who was then quacking it in Cincinnati, a quilted pad containing some sort of soil or earth and described as "a full size sample of a real tuberculosis cure."

King said the substance in the pad was a new radium which he was calling "Ray-Cura." He claimed that it was strongly radio-active but insisted that its use was entirely without danger. As he poetically put it: "It is as harmless as a gentle zephyr blowing over a sweet-scented flower garden." Accompanying this pad was a letter in which King stated that a pad, like the one sent, was only $50 to doctors, but added: "If you can truthfully report it as a genuine cure, it will be free to you." King mentioned as an afterthought that the very specimen he was sending had already cured three patients. Feel-

OUR Applicators are the only ones made which cover any considerable surface that emit rays from every part of them
TUBERCULOSIS—There are many indications of the presence of the disease of tuberculosis of the lungs, but perhaps the most pronounced symptom of them all is the apparent giving way of the spirit inhabiting the body, the apparent temporary partial collapse of the

Part of a page taken from a booklet sent out by J. Bernard King. This shows the so-called radium pads for the treatment of tuberculosis. A specimen pad was sent to the writer with the statement that King charged "only $50 to doctors" but that he would donate this particular pad "if you can truthfully report it as a genuine cure."

* "Medical Mail-Order Frauds," published by the American Medical Association, 535 North Dearborn St., Chicago, Ill.; price 25 cents.

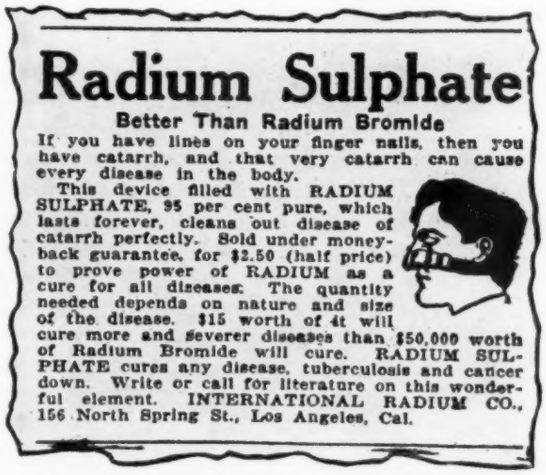
ing that it was impossible to "truthfully report it as a genuine cure," the $50 pad was returned to Mr. King.

A month later King was prosecuted in Cincinnati for the illegal practice of medicine and the newspapers reported that he was fined $100 and sentenced to thirty days in jail. After this experience he shook the dust of Cincinnati from his feet and went to Philadelphia. But the City of Brotherly Love failed to respond to King's blandishments, and he transferred his operations to Los Angeles, in which city he was still exploiting his fraud when the federal authorities debarred him from the use of the mails.

From Los Angeles King advertised in cheap weeklies and also in the Sunday magazine section of one of the leading newspapers of that city. He declared in his letterheads that his International Radium Company was a member of the Los Angeles Chamber of Commerce. Those who answered King's advertisements received a booklet entitled "Radium"; this contained many false and fraudulent claims both as to the nature of the product and to its efficacy as a curative agent.

King claimed that his pads contained radium 95 per cent. pure. The facts are, of course, that radium as such is not an article of commerce except in the form of compounds. Radium bromid, the compound usually employed by physicians in the treatment of disease, costs approximately $8,000 a grain. The post office inspectors found that the stuff King was selling was merely earth that he had shipped to him from a place in Nevada and cost him approximately 9½ cents a pound. King charged $15 for about six cents' worth of this earth.

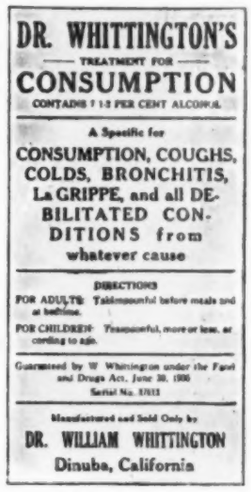
At the hearing the government brought out the fact that King's product was not even radioactive and gave, of course, no radium emanations. In view of all the evidence in the case, the postmaster-general declared that King was knowingly using the mails in a scheme to defraud and closed the mails to him on February 6, 1924.


Radium Sulphate
Better Than Radium Bromide
If you have lines on your finger nails, then you have catarrh, and that very catarrh can cause every disease in the body.
This device filled with RADIUM SULPHATE, 95 per cent pure, which lasts forever, cleans out disease of catarrh perfectly. Sold under money-back guarantee, for $2.50 (half price) to prove power of RADIUM as a cure for all diseases. The quantity needed depends on nature and size of the disease. $15 worth of it will cure more and severer diseases than $50,000 worth of Radium Bromide will cure. RADIUM SULPHATE cures any disease, tuberculosis and cancer down. Write or call for literature on this wonderful element. INTERNATIONAL RADIUM CO., 156 North Spring St., Los Angeles, Cal.

A typical advertisement used by J. Bernard King in defrauding the public. The papers and magazines that published this advertisement participated in the profits of King's quackery.

The Consumption Cure Fake

The Whittington Consumption Cure.—Dr. Whittington's Treatment for Consumption was sold originally by a Dr. Whittington who lived in California. The preparation itself was analyzed some years ago by the chemical laboratory of the American Medical Association and a report showing its fraudulent nature was published in the *Journal* of the American Medical Association in December, 1915. The "cure" itself contained no potent ingredient except alcohol, of which there was 7½ per cent. Whittington, when asked by the post office inspectors for the formula, is said to have claimed that the chief ingredient was apple leaves.


DR. WHITTINGTON'S
TREATMENT FOR
CONSUMPTION
CONTAINS 7 1/2 PER CENT ALCOHOL
A Specific for
CONSUMPTION, COUGHS, COLDS, BRONCHITIS, La GRIPPE, and all DEBILITATED CONDITIONS from whatever cause
DIRECTIONS
FOR ADULTS: Tablespoonful before meals and at bedtime.
FOR CHILDREN: Teaspoonful, more or less, according to age.
Guaranteed by W. Whittington under the Food and Drugs Act, June 30, 1906
Serial No. 3013
Manufactured and Sold Only by
DR. WILLIAM WHITTINGTON
Dinuba, California

A reduced facsimile of the label on Whittington's Consumption Cure, as it appeared at the time that Whittington himself was selling the preparation.

Whittington died in October, 1923. Following his death his heirs arranged to turn over the selling of this worthless mixture to one Frederick Graham of Denver, Colo., who had charge of all sales made outside of the state of California. Graham advertised extensively; some of his claims read:

> "This treatment is a medicine taken internally. The medicine is absorbed by the blood, and being taken into the blood acts directly on the lungs or affected parts."
>
> "When the medicine gets to doing its work through the blood and mucous tissues, the deposit in the lungs or affected parts is loosened, relieving them of the congestion and inflammation. First the lungs or affected parts must be cleaned of the pus or poison. The healing process will then start. The medicine enriching the blood, strengthening the tissues, continuing the cleansing and healing process, eventually leaving the lungs or affected parts in a permanently, healed, healthy condition."
>
> "It is guaranteed under the food and drugs act."

The price charged for one month's "treatment"—four bottles—was $25. Postal authorities found that the cost of the ingredients was less than 18 cents a bottle.

Testimonials, of course, were the chief advertising asset of the Whittington Consumption Cure, and in this connection the quotation that follows is worth studying. It is from the memorandum to the postmaster-general by Judge Edgar M. Blessing, solicitor for the post

office department, recommending the issuance of a fraud order:

> "The unreliable character of testimonials of laymen as to the efficacy of medicines sold through the mails has been again and again demonstrated in cases which have come before this office. It has been the experience of this office that no matter how worthless the preparation, the promoters are always able to produce a large number of testimonials from well-meaning laymen reciting alleged wonderful cures. In one case [The "Professor Samuels" swindle.—A.J.C.] a preparation consisting of a little sugar and salt in ordinary hydrant water, a few drops of which were to be put in the eye of the patient, was exploited as a cure for tuberculosis largely by means of testimonials of users.
>
> "The experts who testified for the government in the instant (Whittington Consumption Cure) case stated that tuberculosis sufferers as a class are the most prolific testimonial givers."

As a result of the investigation, the postal authorities declared that the sale of the Whittington Consumption Cure was a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises. A fraud order was therefore issued against the concern both under the trade names Tuberculosis Home Remedy Company at Fresno and Dinuba, California, and Frederick Graham of Denver, Colorado. The mails were closed to this fraud May 28, 1924.

The Cancer Cure Fake

Burnside's Purifico.—Burnside's Purifico Nos. 1, 2 and 3 constituted an alleged remedy fraudulently sold for the cure of cancer. This business was conducted by C. W. Diffin and his wife.

Some years ago the Diffins did business from Forestville, N. Y., under the name of the Purifico Company and at the same time conducted an alleged sanitarium, where the nostrums were used. In November, 1917, the Diffins were prosecuted by the government for violating the federal food and drugs act (pure food and drug law). The charge was, specifically, that the claims made by them that Purifico was an effective remedy for cancer were false and fraudulent. The Diffins pleaded guilty.

In May, 1923, C. W. Diffin was called on by the postal authorities to show cause why a fraud order should not be issued against himself and his company. Diffin through his attorneys managed to get delays and continuances and no action was taken definitely on the case until more than a year later, June, 1924.

It was brought out at the hearing that the alleged cancer cure, Purifico, was mixed and bottled by Diffin in a small building that was formerly a stable and that had neither sewer nor water connections nor was it screened from flies. The alleged remedy consisted of three products: Purifico No. 1 which contained a vegetable laxative and potassium iodid, some cinchona (the bark from which quinin is

Letterhead used by the Purifico Company before the owners were prosecuted under the federal food and drugs act for fraudulently claiming that the product was a cure for cancer.

obtained), and plant extractives all dissolved in a sweetened mixture of water and alcohol; Purifico No. 2 differed from the first only in that it contained no laxative; Purifico No. 3 was a mixture of plant extractives, including valerian, in sweetened water and alcohol.

It was shown that after Diffin had been prosecuted under the food and drugs act and had admitted that the claim that Purifico was a cure for cancer was false and fraudulent, he eliminated such claims from the labels of his medicine and substituted for these claims a number of testimonials to the same effect. Apparently, Diffin thought that he could avoid responsibility by getting deluded testimonial-givers to do his lying for him. As Judge Blessing said in commenting on this phase of the case:

> "From the foregoing it will be seen that Mr. Diffin has a very high regard for testimonials as business getters. The evidence indicates that he has not sufficient confidence in the medicine to himself recommend it as a cure for cancer and the other serious conditions enumerated herein, but he is willing to sell his preparations on such representations contained in testimonials which he distributes."
>
> "This office has had a great deal of experience with testimonials furnished by well-meaning though ignorant laymen as to the value of medicines purchased through the mails. The unreliable character of such statements has been repeatedly demonstrated. . . . Blind persons actually appeared here in one case and testified that they believed they were growing new eyes by means of a vegetable compound consisting of olive oil, water and alcohol. That, too, was a secret herb remedy principally recommended as a cure for cancer in all its forms."

C. W. Diffin and the Purifico Company were declared guilty of using the mails to defraud and the mails were closed to both Diffin and his company on June 6, 1924.

A Shelf of Books on Health

HARRY HANSEN AND MORRIS FISHBEIN

ASSUREDLY a good game of golf depends on the player's physical condition, and on his mental ability as well. This is the purport of the argument in an interesting and well-written book, THE BRAIN AND GOLF, by C. W. Bailey (Small, Maynard & Co.). There is an interesting foreword by Sir Charles Sherrington of Oxford University and a chapter on theory by Bernard Darwin, the well-known British golfer.

Golf, says the author, is played with the head, so naturally there is a psychology of golf. The motor nerves affecting movements used in golf have been definitely located. Golf discloses the condition of the player. It is in golf that one most easily discovers whether or not the player is suffering from fatigue. "Any chronic lapse means that the more recently acquired controls which prevent such inaccuracies are not working properly. This means concentration, determination and effort."

Later on we learn that "skill develops by practice and passes into habit. Habit diminishes mental effort and lessens fatigue." Unconscious cerebration sets in, and although the brainwork of golf is done on different levels, the bulk of it, explains the author, is done by the subconscious mind.

To explain the mental working of the golfer the author draws on conclusions reached by Freud, Jung, McDougall, Schon and Hutchinson, but it goes without saying that these men did not always have golf in mind when they wrote. As a matter of fact some of their conclusions might affect other sports as well. In a similar manner, no doubt, one may find parallels for comments such as these: "Golf is in essence combative and gives scope for the exhibition of personal prowess. The golf club may be regarded as the lengthening of one's arm. Prehistoric man used clubs and the instinct to smite is primitive and strong." We are told also that the shot which gives the keenest pleasure is the drive, because it satisfies a primitive instinct. Similar analytical methods may be applied to other sports.

Some day, perhaps some one will write a book on the hygiene of golf. That book will include elementary facts regarding the amount of energy used in playing eighteen as compared with thirty-six holes. It will have something to say about the effects of four to six hours of hot sunlight on one who has not been accustomed to such exposure; it will tell of the desirability of gradually accustoming one's self to the various strains involved in the game.

Physicians are generally agreed that golf is one of the safest and most satisfactory of sports for the man who is getting old, and for the athlete who is not able to indulge in the stresses incident to such sports as tennis and baseball. However, golf is not, as played nowadays, an invalid's recreation. There have been reported deaths from overexercise and overstrain, even in this sport.

MANY persons doubt the usefulness of writing about the food needs of the individual in the form of percentages, involving all sorts of figures. How many housewives are there who measure meals in terms of calories, weigh the percentages of carbohydrates and proteins, or make up a "balanced meal"? There is much of this in EAT YOUR WAY TO HEALTH (Funk & Wagnalls Co.) by Robert Hugh Rose, M.D., instructor in the Post Graduate Medical School of New York City. There are pages of "maintenance menus," carefully balanced, of weight reducing menus—for many days, all named, and there are tables with all the calories and the standing of the vitamins in certain foods specifically stated.

Thus an order of three buckwheat cakes measures 300 calories, with "A" and "B" vitamins; a club sandwich is 600 calories, with "A," "B" and "C" vitamins. Two waffles give us 400 calories, etc.

It seems doubtful that the public will ever be brought to a stage when it will carefully compute the calories that constitute an adequate diet. If such a time does come, it will probably be reached through some manufacturer of food products, who will see to it that packages are carefully labeled with information as to the number of calories contained in definite portions of the food substances included.

At a time when our food supplies come largely in package form, here is an opportunity that should not be overlooked. Once this is done, computation by the laymen will be a relatively simple matter, and it will only remain for those engaged in instructing the public to indicate the proper amounts and kinds of food substances to make a diet that is correct, both in character of food and in calories. Scientific evidence has already demonstrated that caloric feeding is adequate for increasing and reducing weight in the large majority of cases; the only exception being those persons who are constitutionally inclined to unusual obesity or slenderness.

THERE are already many books of practical medical advice intended for popular consumption, and to their number Dr. Royal S. Copeland, now senator from the state of New York, has added THE HEALTH BOOK (Harcourt, Brace & Co.). It gives a great deal of advice on "what to do before the doctor comes" and the like, supplementing the old-fashioned medical handbook once found in every family. The advice offered here sums up that which Dr. Copeland has repeated often in his practice, so we may take for granted that it is comprehensible to the layman, and practical.

We find that although Dr. Copeland tells the layman what to do in simple cases like itching, constipation, corns, chills, fainting and the like, he is too experienced to suppose that the patient can heal himself, and in most instances he remarks "send for the doctor" or "consult the doctor frequently." He has emphasized this in a chapter of general advice in which he says: "The death rate of a community depends largely on the quality of the medical service rendered. Where the doctors are and where they are patronized by the population, there the death rate is lowest. The time to call a doctor is in the beginning of illness."

Physicians will no doubt endorse his advice on making a sickroom free from dust and germs by "removing the gimcracks and knick-knacks." He also advocates that the urine of every one, men, women and children, be examined once a year. This is in line with the best procedure of insurance companies, which now offer a physical examination annually with their policies. Dr. Copeland favors a course in our colleges for the education of the prospective mother, dwelling especially on the physical side.

In the attempt to achieve simplicity and popularity, Dr. Copeland errs perhaps in the matter of medical accuracy. His description of the cause of angina pectoris, while giving the layman some idea that there is something wrong with the heart, does not tell him that medical science is not yet convinced that it knows the actual cause of this disease. The article on choking, telling how to remove a foreign body, which may have become lodged into the throat of a child, has many elements of humor in its emphasis of the obvious. The discussion on diarrhea in children suggests the discontinuance of food for one or two days. Any diarrhea in an infant should be referred to a physician, particularly in the presence of fever.

The article on food or ptomain poisoning is a complicated mixture of advice, which attempts to cover spoilage of foods by any or all causes, and is certainly inadequate so far as it refers to the cause and treatment of botulism.

Epilepsy, Dr. Copeland believes, is due to undue drainage of nerve energy. He also lists a half dozen other possible causes. His advice as to treatment includes simple, ordinary hygiene.

On the whole, his advice is useful and well suited to readers who may not understand technical terms.

HERE is a book called CANCER, with the subtitle "How it is caused; how it can be prevented," by J. Ellis Barker, which commands attention because it is introduced by Sir W. Arbuthnot Lane. Mr. Barker himself is without standing as a medical authority; in fact, he is not a writer on disease at all, but specializes in foreign politics, having written much on Germany. He makes no claims to medical astuteness, and his book is addressed primarily to the layman. Nor does the book bear out the rather pretentious claims of the subtitle.

Mr. Barker admits that nobody knows just what causes cancer, although there are many guesses about it; also that nobody asserts that he can cure it. His remedy is prevention; start before cancer develops, and he believes that he has found conditions that are conducive to cancer.

This goes back to his own personal experience. It appears that due to malnutrition, constipation, lack of exercise and disregard of the normal functions of his body he had become what he considers a semi-invalid with all the symptoms of a man about to develop cancer. He arrested this situation by studying food, eating that containing nourishing vitamins, eliminating constipation, and building up good habits. He is now in excellent health but admits that it remains to be seen whether he has routed cancer.

By studying statistics of disease, the opinions of many physicians and research workers, he comes to the conclusion that cancer occurs most where nutrition is neglected, constipation is general, and where the needs of the body are not cared for. In thus finding an answer to most of the doubts Mr. Barker often acts without reference to proof: he states his opinion; it sounds logical, so he assumes it to be true. This often leads him to assume too much. Thus the fact that cancer mortality is particularly heavy among the hygienically living groups is explained by him by the theory that cancer is due to chronic poisoning and vitamin starvation. Other tables are explained in this wise:

"In damp and relaxing districts people suffer far more from constipation than in dry and bracing ones. Hence the people in England and in Holland are subject to cancer arising from internal poisoning, from chronic constipation and to degenerative changes culminating in cancer. Moreover in low-lying, damp countries, such as England and Holland, milk, meat, and other perishable provisions go bad far more readily than where the air is dry and bracing.

Consequently, distributors in damp and marshy districts are apt to add an extra dose of poisonous preservatives to their goods."

He then explains the high cancer mortality of countries with "bracing" properties, like Switzerland and Sweden, by the fact that they have long winters and get vitamin-starved for lack of fresh green stuffs and fresh fruit. As a result large stores of provisions are put by and treated with chemical preservatives which poison the body. Mr. Barker has a reply to every objection that can be made, but his conclusions are seldom supported by facts. The author has brought together a great mass of information on cancer, and has imparted advice which it would be excellent for any one to follow—for it deals specifically with the need for pure foods, proper eating, regularity of habits, avoidance of constipation by natural means, not drugs; altogether a rational mode of living.

If it is true that cancer is a disease of civilization, and is on the increase in highly populated areas, it may be supposed that the habits of civilized areas may well be scrutinized, and if found to contain abuses, may be fertile ground for the specialist. There is no doubt that rational living will deter the progress of any disease; in how far it can arrest cancer is still a big subject for future research. (E. P. Dutton & Co.)

THE popularity of Prof. J. Arthur Thomson of the University of Aberdeen with the readers of America dates from his recent editing of "The Outline of Science." His writings before that time, however, have long been treasured by those who have had access to them. Prof. Thomson is able to clarify an abstruse and highly technical discussion without giving the impression that he is talking down to his readers. He is the master of one of the most compact and interesting styles in scientific writing.

A new book, with the all-embracing title, SCIENCE OLD AND NEW, has just been published in the United States by G. P. Putnam's Sons. It deals, however, principally with biology, and to some extent with evolution and man, and is made up of various articles that have appeared in English magazines. All are written in his illuminating manner that makes a scientific treatise have the air of a romantic tale.

Thus there is an article with the title that might belong to a child's story: "How the Elephant Got Its Trunk." But Prof. Thomson explains that is evolution's story of that phenomenon. He writes:

"In the story of the elephant we get glimpses of the plus and minus method of evolution. The process of transformation works by adding on—more and more folds on the massive molars, longer and longer tusks, stronger and stronger musculature in the trunk, more and more convolutions in the cortex of the fore brain. But it also works by cutting off—shortening the lower jaw, getting rid of the lower tusks and the canines, reducing the number of back teeth; and the striking thing is that parallel changes of adding on and lopping off seem to have taken place independently in widely separated parts of the world. This shows that they are under 'the reign of law.' Another glimpse of Nature's methods we have already alluded to—the making of the new out of the old. The great tusks, what are they but overgrown incisor teeth? The extraordinary ridges of the molars, what are they but exaggerated plaitings of the enamel into the ivory? The mobile proboscis, able to lift a needle or a log, a penny or a pail, what is it but an extraordinarily long nose, with something due to the upper lip?"

Likewise Prof. Thomson has included here papers on animals that live underground; the famous bird hill at Handa, Scotland, where probably 400,000 birds were packed together on shelves of cliffs; the development of sea serpents and sea snakes; how pearls are formed; inbreeding and outbreeding; parasites and bacteria; the development of the human hand; the origin of land plants, and many more subjects of an informative nature.

THE MASTERY OF FEAR by William S. Walsh, M.D. (E. P. Dutton & Co.), is a popular and easily understandable book on the origin of fear, its relation to nervous disorders, and how to treat it. The research of psychologists and physicians is explained in elementary fashion for the layman. To the informed the book will seem bromidic.

CONTROLLED POWER by Arthur Holmes, M.D., professor of psychology, is "a study of laziness and achievement" and one of a group of books known as the "Mind and Health" series, edited by H. Addington Bruce (Little, Brown & Co.). As the books have the object of promoting the health and happiness of the reader they may be pardoned for the fact that something like exhortation creeps into the style. There is an emphasis on good health as a basis for routing indolence, and laziness is explained as often the symptom of an unhealthy condition, rather than of a disposition.

FOOD AND FLAVOR by Henry T. Finck is described as "a gastronomic guide to health and good living." He wrote "Girth Control." A new edition of a book first issued in 1913, discussing food values; how to look for nutritious foods, etc. Here is more about vitamins and calories.

What Causes Insanity?

H. DOUGLAS SINGER

THE causes of many forms of insanity are obscure or even entirely unknown and it is only natural that this fact should give rise to much speculation. It is also intelligible that these speculations should center around body organs whose functions are equally obscure. Among these organs must be placed the majority of the ductless or endocrine glands, of which the pituitary gland and the ovary are good examples. Much the same may also be said of the whole subject of heredity in mental diseases, the study of which, as of the endocrine glands, is still in its infancy.

Another fact, to which sufficient attention is not always paid, is that changes in the activities of the endocrine glands are the normal accompaniment of all states of emotion or feeling, no matter what their cause.

If we get angry, justly or not, the ductless glands become especially active and by this activity change the character of the heart beat, intensify the vigor of the muscles, cause the liver to pour into the blood a quantity of readily combustible material to serve as fuel for the activity of the muscles, increase the rapidity with which the blood will clot, and make other changes that prepare the body for vigorous action, avoidance of fatigue and harm from wounds. In all forms of insanity there is a state of emotion and with it an alteration of the activity of the ductless glands, which may have nothing to do with causing the insanity.

Bearing in mind these facts, the complexity of the problems of the causation of insanity becomes obvious, and it is extremely unfortunate that physicians and others are often led by overenthusiasm and lack of appreciation of the intricacy and subtlety of the body functions to speak dogmatically on cases and causes.

The causes of about one fourth of all cases of insanity are fairly definitely known:

(1) Damage to the brain by poisons. These poisons may be taken into the body by the mouth (alcohol, opium), may be produced by the growth of microbes in the body (syphilis, tuberculosis, typhoid fever); or may be produced inside the body as the result of special organs (as in diabetes, exophthalmic goiter, myxedema). The most important and preventable of all is syphilis, which is directly responsible for about 10 per cent. of all insanity and indirectly responsible, through the damage it does to the cells of the parents from which the offspring develop, for a still unknown proportion of other diseases.

(2) Damage to the brain of gross kind by such diseases as hardening of the arteries, tumors, and abscesses.

(3) More subtle changes in the brain, though recognizable under the microscope, such as those of old age and some so-called degenerative diseases. Some of these last are quite definitely inheritable, but they are comparatively rare.

In the remaining three fourths of the cases, which includes the much talked of dementia praecox, the causes are not definitely known, and it is here that speculation is rife. It is in this group that the influence of heredity is supposed to play a large part, and it does seem that in some of these insanities there is something inherited. But it is probably not the disease itself. Rather it would appear that it is only a constitution that renders the bearer liable to develop the disease. This is no more than is now believed for tuberculosis.

The kind of training, both by precept and example, that a child receives is probably also an important factor in causing mental trouble. The child of parents one or both of whom is insane receives not only a poor constitution (whatever that means in the way of bodily construction), but also faulty training in how to behave, which may be an even more important factor in determining the effects that the struggle for social existence may have on him later.

Often it seems as if emotional stresses, disappointment in love, loss of dear friends or loss of property and social standing, are causes of insanity. While it is possible that this is a correct view on occasion, it is far more probable that the stress or difficulty is only the final straw that causes the break in a person who is already suffering from a mental disease, which has not yet become so marked as to be recognizable by any but an expert.

From what has already been said it is obvious that claims concerning the effects of treatment with glandular extracts must, with very few exceptions, be regarded with the greatest conservatism. The whole subject is still extremely experimental and there are few claims that are not offset by contradictory experiences in the hands of at least equally skilled observers.

We know altogether too little of the functions of most of the glands themselves to be able to connect them with particular diseases, and there is much evidence to show that taking the glands or their extracts by mouth results in changing these substances so completely that they are practically without effect.

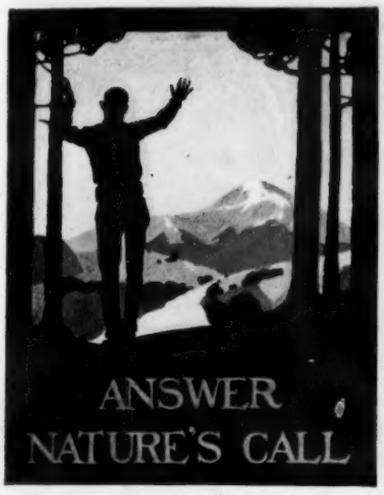
More Prize Winners in the Health Poster Contest

THIRTY-THREE prize winning posters in the HYGEIA health poster contest are published this month, not including the second prize poster of Miss Frances Dimmick of Utica, Ill., which appears in its original colors on the cover page.

More of the posters will be used as cover designs during the coming winter, and for the next few months each issue will contain several pages of posters given prizes and honorable mention. In all, probably 300 posters will receive publication in these pages.

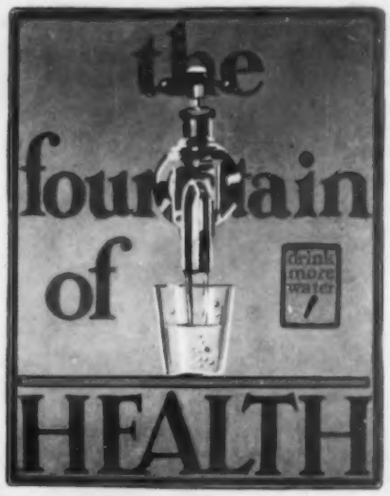
Meanwhile, the display of 1,000 posters at the American Medical Association building, Chicago, is continuing to attract attention, and requests are coming in for loan collections of the posters for exhibit in various high schools, libraries and art museums of the country.

These miniature posters will be valuable reference material for use in classes in health instruction and in art classes. They will help the student to visualize what other students all over the country are doing in health work and will perhaps give them new ideas in design.



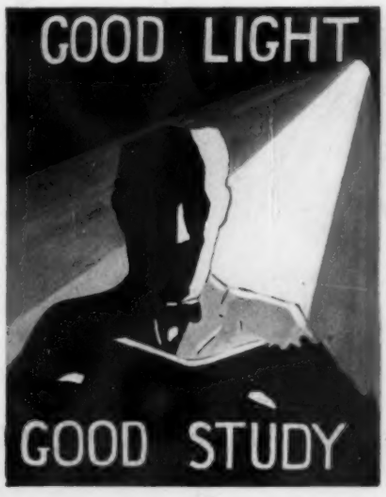
William H. Shoemaker, McKinley Manual Training High School, Washington, D. C., $10 prize.

Morris H. Okun, Central High School, Omaha, Neb., $10 prize.



Coleman Kubinyi, South High School, Cleveland, $10 prize.

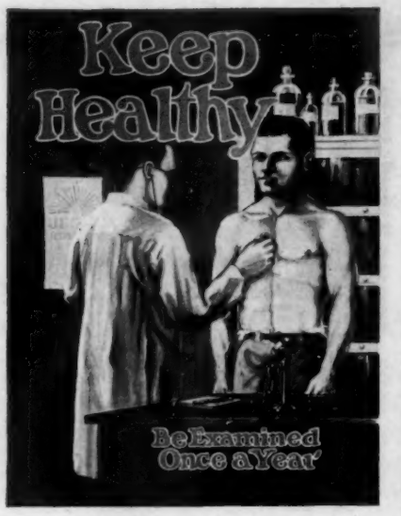
Rose Makman, Glenville High School, Cleveland, $10 prize.



William Beattie, Parker Jr. High School, Chicago, $10 prize.

Bernice Gelder, Riverside High School, Milwaukee, $10 prize.

Esther Bowen, Oakmont High School, Oakmont, Pa., $5 prize.



Roswell F. Brown, Woodlawn High School, E. Birmingham, Ala., $5 prize.

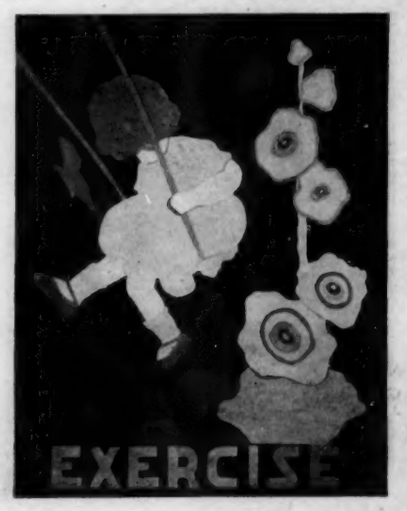
Gale Stockwell, Central High School, Kansas City, Mo., $5 prize.

Hugo Lindberg, Lane Technical High School, Chicago, $5 prize.

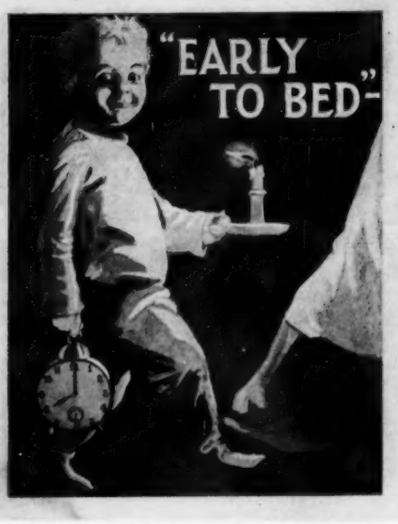
Jane Hastings, Glenville High School, Cleveland, $5 prize.

Dora Hahn, Glenville High School, Cleveland, $5 prize.

Dorothy Wray Barbour, West High School, Rochester, N. Y., $5 prize.

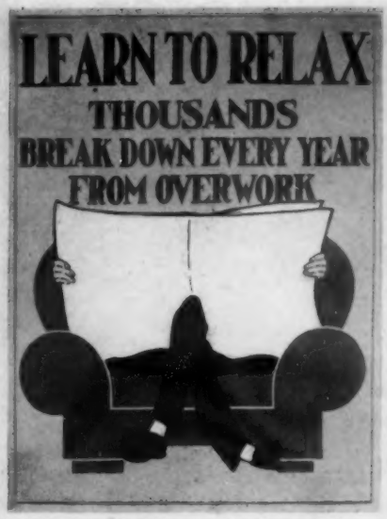


Charlotte De Woody, Chico High School, Chico, Calif., $5 prize.



Walter R. Grotz, Dumont High School, Harrington Park, N. J., $1 prize.

Elva Strube, Schenectady High School, Watervliet, N. Y., $1 prize.



Charlotte Wardale, Peabody High School, Pittsburgh, $1 prize.

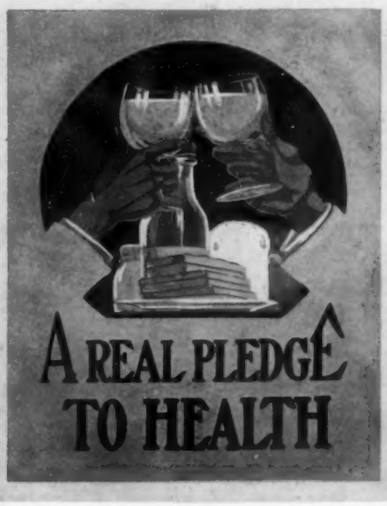
Olive Noonan, South High School, Cleveland, $1 prize.

Edgar Brunner Robison, Central High School, St. Louis, $1 prize.

Sarah H. Doty, Peabody High School, Pittsburgh, $1 prize.

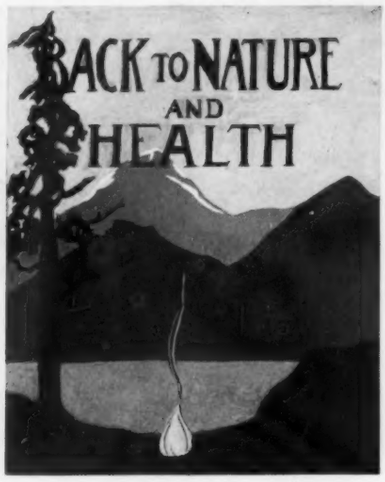
Philip Mignogna, Frankford High School, Philadelphia, $1 prize.

Helen Gerstenlauer, Washington Irving High School, New York City, $1 prize.



Ralph W. Reynolds, Nicholas Senn High School, Chicago, $1 prize.

Eunaitai Dillee, William Chusman High School, Independence, Mo., $1 prize.

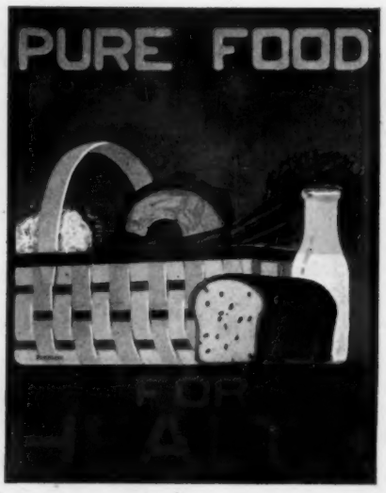


Florence Young, Lakewood High School, Lakewood, Ohio, $1 prize.

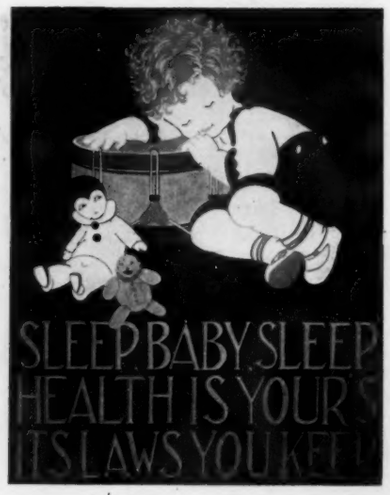
Annabelle Bleckrie, South High School, Cleveland, $1 prize.

Alfred R. Williams, Frankford High School, Philadelphia, $1 prize.

Franklin Kahn, Frankford High School, Philadelphia, $1 prize.

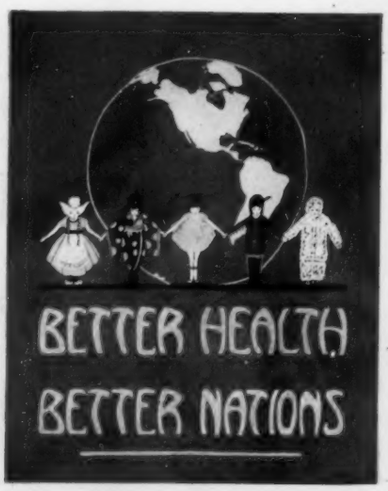


D. A. Vorus, Crockett Technical High School, Memphis, Tenn., $1 prize.

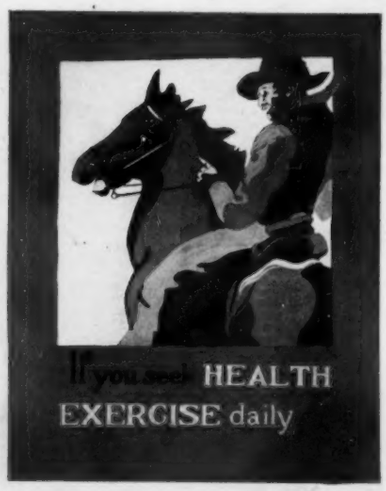


Rita Rogers, Olean High School, Olean, N. Y., $1 prize.

Bob Lewis, Central High School, Owosso, Mich., $1 prize.



Margaret Tenhopen, Central High School, Grand Rapids, Mich., $1 prize.



Fred Barratt, Central High School, Lansing, Mich., $1 prize.

Make Provision in Your Will for Better Hospitals

JOHN R. WILLIAMS

HOSPITALS are rarely mentioned in wills. The very rich occasionally make such benefactions, but seldom in the amount or with the frequency they should. Persons in moderate circumstances rarely make gifts to institutions, probably because it is feared that small bequests may excite invidious comment, perhaps more often because it is not the custom.

There were nearly 4,000 deaths in Rochester, New York, last year. In not more than one dozen instances was money left to hospitals. Supposing in half of these 4,000 deaths, some gift in money from $100 up, in proportion as it could have been afforded, had been left to commemorate the life of the departed one by providing for the study and prevention of disease, what an endowment for humanity it would have made!

Very few persons realize the character of service that hospitals now render, or the cost thereof. Most of our hospitals are well equipped institutions, comparing favorably in appointments with first class hotels, where a sick person may be boarded, roomed, and nursed at a cost to the patient far below that of the hotel. Indeed, more than 80 per cent. of all patients who enter the Rochester hospitals pay less than the actual cost of their care. Thus it will be seen that nearly all who receive hospital aid, whether they are ward or private cases, are helped by the thoughtfulness of those who contribute to the support of these worthy institutions.

The dollars that generous citizens give annually help to defray a part of the hospital bills of their less fortunate friends. Donations and funds raised by such organizations as community chests are designed to take care of current needs and can only be used for that purpose. They are insufficient and do not provide for the growth and scientific development of hospitals.

Money for this purpose must come from private beneficence and since such gifts are few, hospitals are generally hampered by lack of financial means. Overcrowding, due to insufficient beds, is common. Every day sick people are turned away because of lack of adequate facilities for their care. With the rapid growth of the cities, this need will become even more pressing.

There is yet another direc-

Cunningham

The Faxton Hospital, Utica, N. Y., founded in 1875 through the beneficence of Theodore Faxton (above). Mr. Faxton started in life as a stage driver.

This model diet kitchen in the Highland Hospital, Rochester, N. Y., was equipped by Mrs. Frank Ritter as a memorial to her husband at a cost of $1,000. In this laboratory each year several hundred patients and nurses are taught dietetics.

tion in which hospitals should grow. The science of caring for the sick is comparatively new. Most adult citizens have lived through the period of the development of the means of transportation from the stage coach to the airplane and of the transmission of messages from the pony express to the wireless. These wonderful advances are commonly understood.

Little Medical Research Going On

Achievements in medical science are no less marvelous, but are not generally appreciated. From the mental level when the doctor determined the nature of disease by introspection and treated it empirically by the use of drugs, potions and incantations, up to the level where we see physicians as careful students of the natural sciences, calling to their aid the wonderful discoveries of biology, chemistry and physics, is most praiseworthy progress. Unfortunately, all stages of it still exist in our presence. Hospitals, therefore, should be institutions of learning where physicians by study and research can perfect themselves in the knowledge of the healing art and aid in the solution of perplexing illnesses.

Few people realize how little actual medical study is going on in the world in spite of the discoveries that have been made. When one becomes ill with a fatal malady or when a loved one is seriously afflicted, he is apt to think that somewhere some one is battling with the disease and that its solution will soon be at hand. He invariably wishes that he might have that fancied aid. Later he may learn that because of lack of means very little actual medical research is being carried on in regard to that particular problem. He may then feel that the world is cruelly countenancing misery and death.

Here and there will be found hospitals equipped for the investigation of disease and occasionally there will be seen a struggling, inspired worker, but the institutions for such study and the individuals engaged in it are far too few and the problems to be solved without number.

Every city and citizen should feel duty bound to aid research along the lines that will conserve human lives and prevent suffering. We owe it to ourselves. Even if we escape the dreadful diseases of childhood, the causes and treatment of which are very imperfectly understood, we are quite likely to fall prey to the degenerative diseases of adult life which are even less well understood.

The family physician, as he goes about in his daily rounds contending with all sorts of conditions, has not the training or aptitude for medical research. Such work must be done in hospitals and laboratories by those trained in the various sciences, in cooperation with the physician. There must be scientific teamwork. Moreover, there must be an adequate reward for the worker. All of this makes new financial demands on us as citizens, but it is for our own welfare and good. We ought to encourage and support it.

One way, a most magnificent way, in which we can do this is by making a will providing for or helping promote scientific study to the end that those who follow us shall not be called on to suffer as have we or to die prematurely without having a fair chance for life.

Three Ways to Help Hospitals

For the information of those who are not familiar with the opportunities that hospitals afford as a means of commemorating the lives of loved ones, the following suggestions are offered. There are three distinct ways in which hospitals can be helped by bequests:

(1) Through an endowment to meet the current financial needs; that is, to meet the annual deficit caused by taking care of a large number of persons in moderate circumstances at less than cost.

(2) Through extension of hospital facilities by the addition of new buildings and equipment.

(3) Through medical investigations and research.

A person in very moderate circumstances might leave a sum ever so small for any of the aforementioned purposes. If the sum in itself is inadequate, it can be added to other sums left for a similar purpose, so that the aggregate of many small bequests might in the end accomplish the same as one single large benefaction. Gifts of from $10 to $100 from a large number of so-called middle class people would afford magnificent evidence of the growing spirit of humanitarianism and brotherhood.

To those who can afford more liberal bequests, as, for example, $1,000 and upward, provision can be made for the support of fellowships in medical research in hospital laboratories. Not long ago, an estimable Rochester woman supported for one year at a cost of $1,000 a fellowship in chemistry in the scientific laboratories of a hospital. The work done under this fellowship was of the highest order. It yielded information of direct value in ameliorating human suffering and prolonging lives and has been a distinct contribution to humanity. Constructive research in medicine could be carried on continuously on a large scale if a number of such fellowships were available. At the present time, because of the lack of funds, it is more or less sporadic, disconnected and unrelated to other problems in the community. To those of larger means, the construction of a building for a special purpose affords opportunity for a magnificent memorial.

Bequest Can Be an Enduring Memorial

By no other means can one secure for himself or his loved ones a more enduring and splendid monument than is offered in hospital aid and endowment. For a few hundred thousand dollars, a Baltimore merchant of the Civil War period established a university and hospital which will give him and his native city everlasting fame. Johns Hopkins Hospital is by far the best known institution in Baltimore, indeed, it has made that city famous throughout the world.

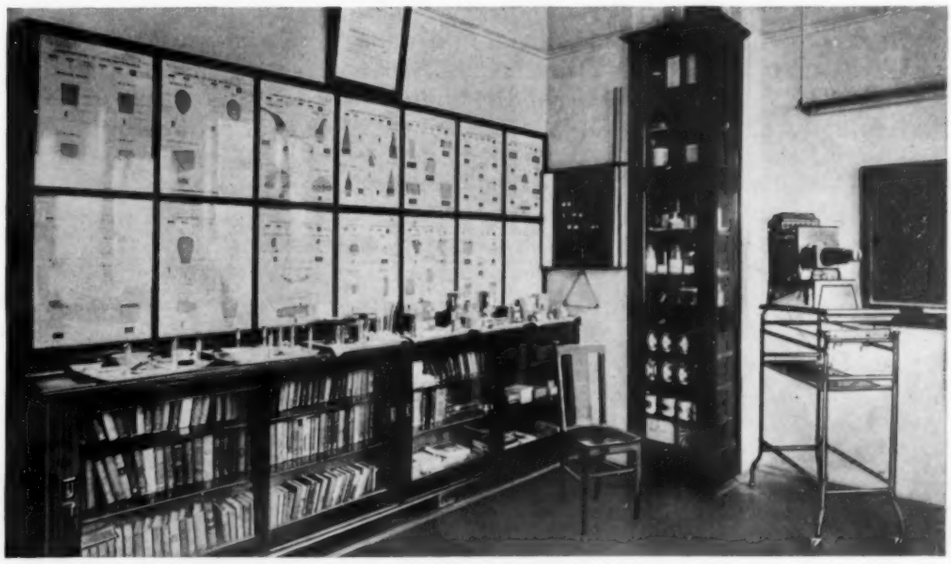
A restraurateur in Boston, a man of very ordinary attainments but successful in business, left a modest sum of money to establish a hospital. A fortunate series of circumstances increased the value of this gift so that it was possible to build and endow an institution for the care of the sick which is unexcelled in America in equipment, scientific appointments and service.

Thus it was that Peter Bent Brigham, the first to conceive the dairy lunch counter in America, built for himself in the hospital which bears his name a memorial that will endure for generations and that will cause countless thousands to call him blessed. The need and opportunity is just as great today in most American cities as it was in Baltimore or Boston.

Death is an event of life, dreaded by nearly every one. It is because of the fear or dread of death that few prepare for it. One of the most important preparations one should make while he is yet in good health is the writing of the will.

It is a common experience for the physician at the bedside of the dying to be told that no will has been made and that grave injustice will result if such a document is not devised. The physician is then confronted with the difficult task of inducing the sick person to undertake a piece of legal work that should call for the exercise of judgment and thought of high order.

When weakened by sickness and suffering, and with the knowledge that death is close at hand, the human mind is not at its best, nor can it exercise that discriminating judgment which would be possible were the body in good health. The numerous death bed wills which are con-



A recreation and classroom built and equipped for $1,000. This gift of William G. Markham is used for teaching dietetics and hygiene to patients and also for their recreation. Every article in the room is a gift from a former patient or friend of the hospital. Current magazines and newspapers are on file.

tested in court are striking evidence on this point. It must be obvious, therefore, that the time to make a will is while one is well and strong. Moreover, it should be done then as a duty to those whom we love and cherish and whom we would see protected and nurtured after we are gone.

Will Is a Moral Obligation

A will is really an expression of character. The person who carefully and properly arranges his affairs for impending death is surely a person of courage and foresight. Success in life and value to humanity are largely determined by the qualities of mind and heart that prompt one to make a will while he is yet in good health. It will be found that such a person is not only devoted to his family but has the interest and welfare of his friends and community at heart.

It can be said, therefore, that a will made by a person in good health is a badge of courage but when it provides for the loved ones of the home and also for the humanitarian needs of the community, it may be said further that it is an index of unselfishness and nobility of character. Every one knows that the amount of the gift is not a measure of the beneficence; that is determined by the sacrifice entailed. The widow who gave two mites received far greater satisfaction and reward than the parsimonious rich man.

It is clearly the duty of every one, therefore, to make a will when the mind and body are vigorous and to provide not only for his family, but also for those agencies in the community that help to relieve illness and ameliorate human misery.

A RESTAURANT KEEPER'S WILL

Every Bostoner who eats at a dairy lunch counter—and even Boston has its thousands that do—does not know that Peter Bent Brigham of that city was the first to conceive the dairy lunch counter in America.

But every inhabitant of Boston, indeed almost every one in this country, has heard of the Peter Bent Brigham Hospital, one of the finest institutions in the world for the care of the sick.

This restaurant keeper built himself a lasting memorial when he left a modest sum of money to establish a hospital. Any one can obtain for himself an enduring monument by leaving in his will a sum—large or small—to ameliorate human suffering.

Prize Essay on the Health of the Child as a Social Problem

Dr. Ralph E. Barnes, executive secretary of the Florida Public Health Association, Jacksonville, at the conclusion of a course of lectures, at the University of Florida summer school of medicine, offered a prize for the best short essay on the above subject. The prize offered was a year's subscription to HYGEIA. The prize winner was Miss Opal Futch of Alachua, Florida.

ARE the oncoming generations of our American people to have stalwart bodies and efficient minds? Are we to be in the future a nation with the stamina to carry on and surpass present standards? "Independent of the mental equipment of a man, the amount and quality of work he will do depends on mental energy, which in turn is based on physical health and vigor." "The child is father of the man," and the capacity of posterity for doing things will be directly proportional to the physical welfare of the child of today.

Every child has a right to be born healthy, and to be surrounded by sanitary conditions and care during the formative years of his life. It is the duty of the nation to preserve the child free from bodily disease and pain—a service that will produce exuberant spirits and mental energy in him, and for the nation, industrial efficiency.

The highest standards of living, the goal of every civilized people, can only be attained through the recognition of the health of the child as a social problem, and the adequate application of the laws of prevention to secure for him that abundant health which will "best equip him for action."

The Smoke Screen of Quackery

G. K. ABBOTT

THOSE that serve the public often receive interesting and amusing communications, and occasionally such letters contain food for thought. The following letter, both amusing and instructive, was received by the writer about a year ago:

> Dear Doctor: I trust you will not mind my telling you of a little experiment which is doing wonders for me from a health standpoint.
>
> Several years ago I was run over by a team resulting in a serious injury to my spine. I tried all sorts of treatments including osteopathy, chiropractic, electricity, massage, etc., but I continued to suffer tortures with my injured spine. At last I read of the healing agency of air and I wished I could make use of air as a healing agency. I read that air is the strongest natural force in the universe, water not excepted. We could not live more than a few seconds without air and air heals the diseased lungs of the consumptive when medicine is almost useless.
>
> I read of at least two persons that practiced with an air-filled punching bag, slept with the bag at night and recovered. I took a course of exercises under a trainer by correspondence but my muscles were too sore, the exercises hurt me. Then I was advised to purchase an air bag and sleep with it. I purchased an air punching bag about three weeks ago. I do not practice the exercises, but pump up the rubber bag in its leather case, wrap it in a flannel cloth to avoid contact with the cold case, place it under the bed covers with an extra folded blanket thrown over to avoid a draft.
>
> My spine is much better, I have less pain, and the effect of the air is very restful at night. When I retire, presently I feel a very soothing sensation and I feel the air circulating around my painful body, and pain goes.
>
> I wonder just how much there may be in this for other sufferers. I believe there is much in it for them, but just how much I cannot say. Dear doctor, I wonder if it would be permissible to try this out at the sanitarium. I might send the money a little later for the purchase of a bag, if you cared to try it out. Will you please write and tell me just what you think of this? I paid $4.75 for my punching bag and air pump. A larger size may be had for $5 or $6.
>
> I thank you for your part in practical treatments.
>
> Yours sincerely,

. . . . . .

Of course this letter seems utterly absurd and ridiculous, but a careful analysis of it will make clear the most common of medical errors—one that serves to conceal from the minds of the careless the fundamental basis of quackery as far as it appears supported by actual circumstances.

Punching Bag Theory Exploded

First of all, the writer of this letter is densely ignorant of the physical properties or biologic importance of air, as shown by her belief that an inflated punching bag would be any more efficacious in curing disease than an empty one; or that the mere fact of putting atmospheric air in a bag would give it any more healing virtue than the air not so confined that surrounds her body at all times. How did she come to imagine a sensation of air "circulating" around her "painful body" when she had been to so much trouble to pump it carefully into a bag, confine it there, and then cover the bag with a blanket to "avoid a draft"?

Second, she is manifestly superstitious. Some one's recital of the benefits of fresh air in the condition of tuberculosis of the lungs makes on her the same impression that is made on the gullible public by the patent medicine testimonials of Peruna and Lydia Pinkham.

The third point is of special interest, but it may not be so clearly seen and requires some space to elucidate. Concerning the woman's statement that the pain of an injured spine disappeared during this "rabbit foot" performance, there is more than one possibility as to the basis of her conclusion.

Can we dismiss the matter by saying that her pain was imaginary? I think not justly so. The accident mentioned is altogether too likely to be severely and persistently painful to be anything but real.

Could such a pain be relieved by sleeping with a punching bag or a football? Of course the answer to this must be in the negative.

Time Required to Heal Spinal Injuries

Then on what fact or circumstance could any such conclusion be based? At this point we shall need to go a little afield and study the matter of such injuries. The spine is a column of bones of very complicated form, so shaped and so fastened together that bending movements forward and backward and from side to side are possible as well as a limited amount of torsion or twisting. The ligaments are numerous, very dense, tough and resistant, and the cartilages are fibrous and firmly fastened to the bones. Ligaments will tear and even the bones will fracture before perceptible dislocation takes place. The most severe accidents to the spine produce fracture so that the spinal cord is cut off or permanently damaged, with resulting paralysis of motion and sensation below the point of injury.

In spinal injuries that do not produce paralysis but are severely painful the pain is due to the tearing of ligaments or bruising of tissues,

with resulting hemorrhages. While a simple cut heals entirely in a week or two, the repair of torn ligaments requires a very long time and so for weeks, months or years even slight movements of the injured spine cause severe pain.

Nature, Not Bag, Produced Cure

Any or all forms of treatment except absolute quiet with corset or adhesive plaster supports are of no avail until nature by the natural processes of healing has repaired the torn ligaments. This is the precise reason for the woman's honest statement: "I tried all sorts of treatments including osteopathy, chiropractic, electricity, massage, etc., but I continued to suffer tortures with my injured spine."

Why then should she claim relief at the time she began with the punching bag? To this question there are two possible answers. First, the repair of the torn ligaments may have been nearly complete so that real relief was obtained about this time. Second, the repair may have already occurred, the pain continuing by virtue of habit so that all that was necessary was the drawing of the attention of the patient from her spine to some other subject; in this case to the fascination of what to her was a new and magic agent.

Court Decisions and Cures Often Coincide

Some cases are cured by the joy of receiving monetary compensation for an accidental injury. Such occurrences are not at all uncommon. For example, it is common knowledge among physicians and lawyers whose work brings them in close contact with damage suits based on railway or automobile injuries that often the pain disappears about the time monetary damages have been received.

This alleged fact is not necessarily deception on the part of the claimant. If it requires months or years for the healing of a severe spinal injury, it is also a notorious fact that the securing of monetary compensation from a railroad company also requires years, and that the two should nearly or quite coincide in point of time is almost certain to occur in at least such a proportion of cases as to occasion comment.

Strains of the sacro-iliac joint also require a long time for recovery. A case now in hand well illustrates this. About one year ago this person fell on a slippery floor sustaining a severe strain of this joint (at the back of the hips). For a period of eight months no treatment or appliance used gave anything but partial relief and this even with the counsel of a skilled specialist in this line. Toward the end of the ninth month very marked relief appeared—at a time when all forms of treatment except rest had been omitted for a whole month.

To what was the improvement to be attributed? If an electric belt had been worn about this time it surely would have been much lauded. Or if a chiropractor had made a diagnosis of a dislocated vertebra, he would have added another charmed camp follower to this bone setting cult. If some charlatan doctor had examined a drop of blood—à la Abrams—and pronounced the disease tuberculosis, he would then have been able to produce with "the sympathetic vibrations of an oscilloclast" a most magic cure.

But to what was this real improvement due? Certainly to nothing but the elapse of time and the ordinary healing processes of nature.

Osteopathy Got the Credit

Another patient with a severe lumbosacro-iliac strain continued to have severe pain over many years and tried in vain the usual round of treatments—good, bad and indifferent as far as their real virtue in other conditions might be concerned. Among these were osteopathy, chiropractic, massage, hydrotherapy, plaster casts, electricity, etc., all with the same final outcome, namely, no permanent relief, and some, such as the "bonesetting" procedures, were too painful to be long endured.

This patient after a long time returned to osteopathy and from this finally claimed relief, although admitting that even at the beginning of this last round of adjustments the treatments were too severe, hurt her and had to be lightened to give relief.

To what, in fact, was the final or real relief due? There is no good reason to believe that any of the agents used possessed any specifically curative virtue in this case, although the person also admitted that each round of hydrotherapy gave much temporary relief.

Final recovery was due to the ordinary healing processes of nature that occurred in the lapse of time. The torn ligaments and inflamed tissues finally healed and the spine and hips once more becoming stable, the pain was consequently relieved. Osteopathy had nothing whatever to do with recovery except that the last course of it came at the time when nature itself had nearly healed the damaged tissues. Nature worked the cure and osteopathy got the credit.

Was It Abrams or Nature?

Another interesting case is that of a young boy whose ear discharge ceased while under treatment with an Abrams oscilloclast. Physicians well know that ear suppurations, especially in children, come and go with or without treatment.

In another patient with combined nervous and mental difficulties, great improvement in the mental phase of the trouble was produced by careful attention to diet, rest, and mental quiet with out-of-door life. Nature produced the result by perfectly rational care, but an Abrams

oscilloclast got the credit since this treatment was taken while recovery was occurring.

A third patient, who had once recovered from tuberculous lung disease, suffered a relapse because of too much "jazz" in life. She heard of the wonders of the magic electronic cure and traveled from home to get it. Here she was put to bed on a screen porch, given a milk diet, and other nourishing food. She also took the Coué treatment à la Abrams oscilloclast and "day by day in every way she got better and better." Nature worked the cure, the doctor got the money, and Abrams the credit.

Impatient Won't Wait for Nature

In a number of diseases nature tends to produce recovery if given half a chance. Among these are the spinal and sacro-iliac injuries above mentioned. Then there is the all gone feeling of exhaustion that follows an acute infectious fever such as influenza and pneumonia. By rest, nourishing diet and out-of-door life recovery occurs in the process of time.

But the "impatient patient" wants some quick and ready relief. To satisfy this demand on the part of the convalescent the doctor prescribes elixir of iron, quinin and strychnin or Sir James Jackson's adreno-pep. The less exacting patient goes direct to the druggist and gets Peruna, Hostetter's Bitters or Pink Pills for Pale People.

If a solicitous neighbor happens in, then Viavi may be the remedy of choice if the unfortunate is a woman and gullible enough to bite.

Then there are the diseases that naturally have periods of betterment and periods of relapse or recurrence, such as asthma, rheumatism and catarrh or even pernicious anemia. Agents of real or imaginary virtue, if used shortly before a period of betterment, often get the credit of cure and patent medicine testimonials are written at such times. Among the medical profession iron and arsenic have a traditional value in pernicious anemia but they have never been proved to possess the slightest curative virtue. The imaginary value doubtless arose because of the natural periods of recession.

Among the gullible public, patent medicines, electric belts, the oxydonor, etc., have the same sort of reputation in asthma, rheumatism and a host of other diseases. In all these cases the basis of supposed healing virtue lies in a mere coincidence. A remedy is taken, the patient recovers, therefore the recovery must be due to the remedy used.

The doctors have a very apt expression taken from the Latin by which they designate this peculiar obsession of the human mind: *Post hoc ergo propter hoc.* Translated literally into plain English it means, "After this, therefore because of this."

The erroneous idea that a certain recovery is necessarily due to the use of some remedy preceding or coinciding with the recovery dies hard. It afflicts not only the unlettered, the ignorant and superstitious but it is the pitfall of the unwary scientist. It is the god of the superstitious, the obsession of the ignorant, the rallying cry of the charlatan and the smoke screen of quackery.

Seven out of every ten sick persons, it is estimated, recover in the course of time by virtue of the inherent recuperative powers of nature. This healing may occur regardless of the kind of treatment used and often, it may be said, in spite of it. About two out of every ten require skilled scientific attention in order that recovery may occur. This gives the charlatan a very large field in which to operate, larger in fact than that requiring thorough training and extensive experience. His "cures" are often numerous and supported by apparent fact, that is, by the recovery of the patient.

Quack Either Ignorant or Crooked

The charlatan may or may not know the real basis of the cure. He is either too crooked to admit his deceit or too ignorant to know that his theory is erroneous. If ignorant, it is possible he really believes in his quackery. A certain surgeon has well said that crookedness and ignorance are the basis of quack practice. If the quack is ignorant enough he need not be so crooked. If he is crooked enough ignorance is not necessary.

The theories of cure-all cults are bald assumptions, unproved notions without foundation in demonstrable facts. For example, let us examine the tenets of chiropractic, one of the most popular cults of our day.

What the Chiropractor Claims

The chiropractor claims, first, that all functions in health are regulated by the thirty-one pairs of spinal nerves. This is bald assumption No. 1, for these nerves control the motion and sensation of the arms, legs and trunk but have nothing to do with controlling the functions of the heart, lungs, liver, stomach, intestines, spleen, or kidneys. Many vital parts have automatic control within themselves, the nerves having only a modifying action. Other functions are controlled by chemical messengers and not at all by the nerves.

Second, he claims that all disease is due to the pinching of these nerves by dislocated vertebrae

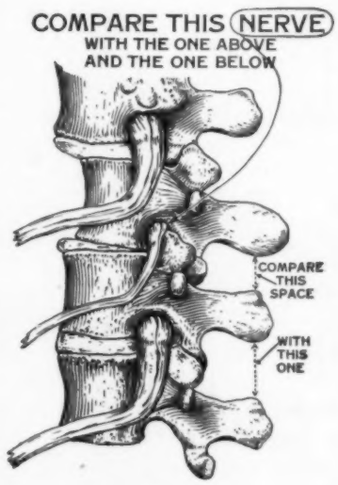


Fig. 1

(bald assumption No. 2). The accompanying illustration (Fig. I) is used to give his theory an appearance of scientific verity. Note that the nerve is shown filling the entire opening between the bones.

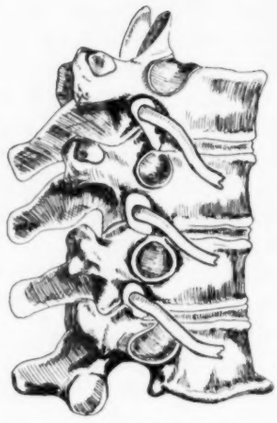


Fig. II

This drawing is a gross misrepresentation of the facts. Fortunately for the chiropractor, as W. J. Mayo remarks, he has a good alibi, for people cannot see their backs—much less the relative size of the spinal nerves and the openings through which they come.

The true facts are shown in Fig. II, where it will be seen that the diameter of the nerve is small compared with the size of the opening. Moreover, the space about the nerve is padded with fat and soft tissue. Were this not the case the slightest ordinary movement of the spine, such as bending backward or to the side, would cause severe pain and spasms.

One professor of anatomy tells the writer that in all his years of experience he has never seen a dead body with a pinched or compressed spinal nerve, and that he has been able to push the end of a finger into each opening, which means that the nerves have plenty of room.

In the most extreme deformities of the spine, in the worse cases of hunch-back (due to tuberculous destruction of the bodies of the vertebrae), there is no pinching of the spinal nerves. Likewise in even so severe an injury of the spine as fracture, no pinching of the spinal nerves occurs. Such facts as these entirely disprove the ridiculous claim of the chiropractor that all diseases are due to pinched nerves from minute subluxations of the vertebrae.

Dislocations of the vertebrae almost never occur, except in the neck; in fact it is well nigh an impossibility, for the cartilages that join them to each other are stronger and more resistant than the bones themselves and resist the most forcible efforts to tear them loose from the bones. The severest injuries to the back crush the bones while they are still held firmly by the fibrocartilages.

Vertebrae Almost Never Dislocated

This fact has been known by surgeons for years, but to prove it beyond the shadow of a doubt Dr. L. C. Kellogg, instructor in anatomy in the College of Medical Evangelists (a class "A" medical school of California), recently conducted experiments to ascertain what would actually occur when severe strain is brought on the spine. The drawings given show the shape of the vertebrae, their relation to each other, and the position of the fibro-cartilages. Over all, the bones are still further held in place by dense ligaments and many layers of tendons and muscles.

The following is Dr. Kellogg's report verbatim as given in a personal letter to the writer:

> We did a little work with the spine to test the power needed to make an "adjustment." We made a sort of sawhorse with a wide top piece, and in this top piece we cut a mortise somewhat wider than the vertical dimension of a vertebral body. For power we used a piece of two inch pipe about 13 feet long so arranged that one end was bolted to one of our cupboards, and the force was applied to the vertebra 1 foot from the fulcrum, thus making a lever of the second class. The bar alone exerted a force of something over 300 pounds, and for further force we used a large can which we hung on the bar at a measured distance and poured in sand, five pounds at a time.
>
> We selected the second lumbar vertebra for the experiment, and the spine was taken from the freshest cadaver that we had in the dissection room. This one had never been in the tank.
>
> The spine was fastened to the "horse" with the ventral side down so that the selected vertebral body was over the mortise and supported only by means of its connections with adjacent vertebrae. The power was then applied to the tip of the spinous process.
>
> When a weight of 1,195 pounds was reached the neural arch was crushed, but there was no effect noticed on the bodies of the vertebrae. Then we cut away the processes and got down to the back of the body of the vertebra. In this case everything was cut away so that the only support that the body had was its union with its adjacent fibrocartilages.
>
> In order to protect the surface of the bone from the iron we fitted a smooth piece of hard wood over the back of the vertebra so that the posterior surface was almost entirely covered by the wood.
>
> This time 800 pounds proved sufficient to crush the body of the vertebra all to pieces. In fact it looked as though it had been ground up in a mill. However, for the most part the union with the cartilages remained intact, and the bone crushed at a distance of about 1/16 of an inch from the union with the cartilage.
>
> Next we tried a side thrust on the tenth thoracic vertebra. It was wholly intact, and the piece of wood was put on the side of the body so that the end did not extend quite so far forward as the ventral surface of the vertebra. The power was then applied and it required 1,315 pounds to crush through the bone. This body crumbled to pieces exactly as the other one did without breaking the union with the cartilages to any appreciable extent, and that part of the body that extended farther ahead than the wood remained unshaken. The wood cut right through the bone, and the part ahead of it still is united to its cartilages as firmly as ever.
>
> Campbell, the author of one of the textbooks used in this school says that the bone is not so strong as the union with the cartilages. He cites as proof the fact that in case of a fractured spine the bone is broken and the joint remains intact. He cites no experimental proof, and this part is supplied by my experiment.

The conclusions cannot be escaped.

1. The spinal nerves have plenty of room in passing through the intervertebral foramina (openings between the bones), hence subluxations would not compress them.

2. A force of 1,200 to 1,300 pounds fractures the bone but fails to dislocate it.

3. In case of severe accident, if dislocation occurs, a fracture always accompanies it and usually crushes the spinal cord with partial or complete paralysis below the point of injury.

4. The chief functions of the spinal nerves are connected with motion and sensation. They have little to do with the functions of the heart, lungs, liver, stomach, intestines and kidneys. The tenth cranial nerve and the sympathetic nerves are the ones that are connected with the functions of the internal organs of the chest and abdomen and these are not so placed that they can be subjected to the pressure of dislocated vertebrae.

Hence the compression of the spinal nerves, even if it occurred (which it does not), would have little or no influence on the functions of the internal organs and would not cause disease of these organs.

Moreover, the last six pairs of spinal nerves pass, not between the vertebrae, but through openings in the sacrum and hence cannot be subject to pressure of even imaginary dislocations.

5. The final conclusion is that the chiropractic dogma is a total misrepresentation of both the structure and function of those parts it attempts to explain. Subluxations of the vertebrae do not occur and even if they did they would not cause disease of any internal organ.

What Are X-Rays?

Their Use in the Treatment of Disease

GEORGE E. PFAHLER

THE x-rays are a form of light, and are composed of ethereal waves, like other forms of light, excepting that they are of much shorter wave length. This short wave length makes it possible for them to pass through substances which are opaque to other forms of light. For example, a sheet of black paper will cut off ordinary light, and yet will not cut off the x-rays. So too, a wood door will cut off other forms of light, but the x-rays will pass through the door with very little obstruction. Even some metals, such as aluminum, offer very little obstruction.

How They Affect Diseased Tissue

X-rays are absorbed according to the density and thickness of the substance through which they pass. Every tissue of the body, through which a beam of x-rays pass, will absorb part of the rays. It is the absorption of these rays that affects diseased tissue.

Like light, the x-rays give rise to no sensation. One does not feel the light rays from the sun but only the heat rays associated with them. No heat rays are associated with the x-rays; therefore no sensation of heat is aroused. Even though the x-rays are used long enough and strong enough to damage the tissues one would feel nothing at the time of their application. The effect is shown later by the death of the body cells.

In the treatment of disease with the x-rays, one must use the rays just long enough and just strong enough to produce the desired effect. This may vary from a fraction of a minute to several hours.

Only a physician who is skilled in their use should ever attempt to treat disease. He must know the nature of the disease and the amount of rays that will be required to produce the desired effect and bring about a cure.

The x-rays used in the treatment of disease differ in quality and quantity. Sometimes one uses rays that are so "soft" that they will nearly all be absorbed in the skin or superficial tissues. Such rays are used in the treatment of skin diseases. At other times one uses rays so "hard" that they will pass through metal the thickness of a dime or half the thickness of a copper cent. Such rays are used in the treatment of deep-seated disease, such as a deep-seated tumor.

Can Be Accurately Measured

Both the quality and quantity of x-rays are accurately measured by a physician skilled in this specialty. Roughly the quality can be measured by determining their power of penetration, but more accurately by measuring their wave length, which is less than one ten-millionth of the thickness of a dime. Such delicate measurements can be made as accurately as one measures cloth with a yard stick.

So, too, one can measure the quantity of rays by simple and practical means; but when it is necessary to be more accurate one uses instruments that measure the effect of the rays on the air through which they pass. For such accurate measurements instruments are used

that measure one twenty-eighth billionth of the amount of electrical current which passes through a single large incandescent lamp. This instrument will easily measure the amount of electricity that passes from the finger of one hand to a finger of the other hand, when the body is not artificially charged in any way.

Sometimes the x-rays are used to stimulate a sluggish organ. At other times they are employed to depress the overactivity of some organ of the body, such as occurs in the treatment of some forms of goiter. On occasion the rays are used sufficiently to destroy tissue, such as occurs in the treatment of cancer. These rays sometimes destroy the diseased tissue without destroying the healthy tissue because the diseased cells are more sensitive.

On account of the great variety of diseases that are sometimes helped by x-ray treatment, it is necessary that the family physician who has studied the nature of the disease and the habits of the patient confer with the expert in each case so that only good and no harm will result, for the x-rays are powerful for harm as well as for good.

Wild stories of miraculous cures, which sometimes appear in newspapers and novels, must not be depended on.

Should Be Used When Simple Methods Fail

Speaking generally, one should not use the x-rays in the treatment of disease when some more simple method of treatment will cure the patient as well. Yet when simple measures do not bring about a cure, they should be discontinued before the disease advances so far that it is difficult or impossible to cure by any means.

Skin diseases that do not yield to simple measures will sometimes give very satisfactory results following x-ray treatment. Some blood diseases and some diseases of the chest are successfully treated by the x-rays.

Cancer can, in many instances, be successfully treated. Much will depend on the location of the disease and the stage at which it receives treatment, for the earlier a cancer is treated the more satisfactory will be the result. Not all cancers can be treated successfully. Some must be operated on by a surgeon, and in many cases it is better to combine the x-rays or radium treatment with an operation.

Cancer of the skin can usually be cured by x-rays or radium if treated early and before it has extended to the deeper tissues. Deep seated cancers give less satisfactory results.

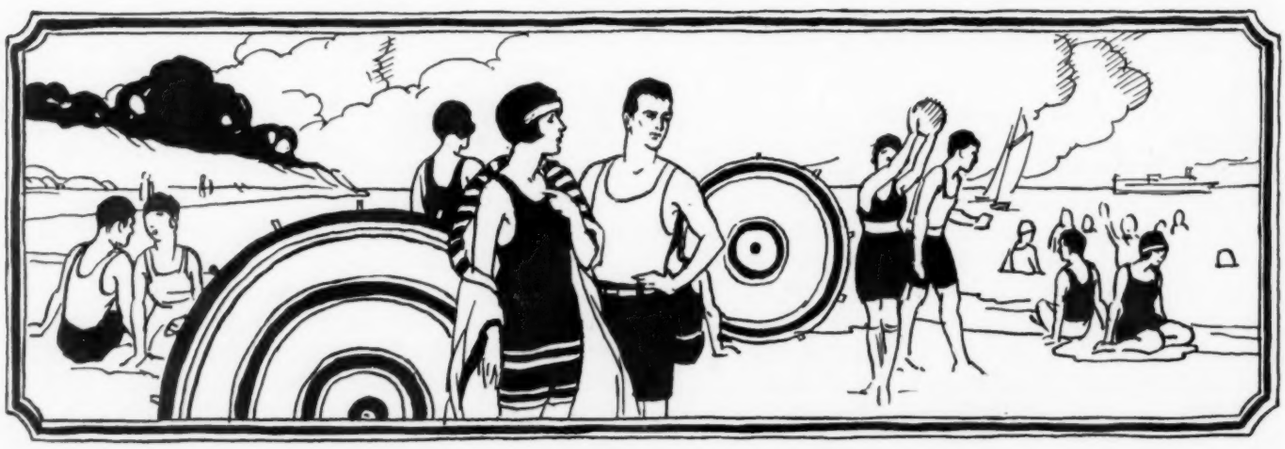
Cancer Needs Early Treatment

In all instances it is wise to treat warts, moles and crusts that form on the skin or lip before they become cancerous. At least one should get the advice of a physician.

Any tumor that forms on the body or in any organ is in danger of becoming a cancer. Any unnatural bleeding may be a sign of cancer. Any ulcer that forms on the mucous membrane of the mouth or anywhere else and does not heal in a few weeks may be a cancer and should be seen by a physician who is experienced in such things. Delays are dangerous. When in doubt, consult an experienced physician.

During x-ray treatment, a patient should not make other applications over the area treated, such as the application of iodin, mustard plasters, liniments, hot water bottles, or even excessive exposure to the sun.

Patients who are under x-ray treatment may develop symptoms or some other condition or complication just as one does when no x-ray treatment is being given, and it must not be assumed by the patient that all such symptoms are due to the x-ray treatment.



Disposing of Body Wastes

Good and Bad Methods Employed in Country Districts

C. W. STILES

WITH the gradual development of civilization from lower to higher ideals, from lower to higher economics, and from smaller to larger communities, it is natural that methods of human excreta disposal have changed from the more simple to the more complex. It is also natural that all of the gradations from less perfect to more perfect methods of disposal are still found in various countries and localities, according to the ideals, economics and density of population in a given area.

In isolated areas, among primitive tribes and peoples either of lower ideals or of erroneous ideas, or in the case of persons on excursions in the country, the most primitive method of disposal is practiced—the passing of excreta onto the surface of the ground and leaving them exposed. This method should be most severely condemned, as one can never foresee what damage he may do to other persons by this method of promiscuous soil pollution.

The Mosaic method of disposal, mentioned in the Bible (Deuteronomy, xxiii, 12-13), is a tremendous advance over surface pollution of the soil. If a shallow hole is dug in the top soil and if the excreta are passed directly into this hole and covered with dirt, they will usually disintegrate very rapidly and most of the contained germs will remain there and eventually die.

Straddle Trench Is Primitive Method

When it is necessary to dispose of the excreta of a number of individuals, a straddle trench is sometimes used. A shallow furrow is dug; the user straddles the trench at one end, and covers his excreta. Gradually, from one end to the other, the trench is filled.

When it becomes advisable to have a less temporary privy than the straddle trench, but when economic conditions necessitate strict economy, the surface privy, open in back, is usually the next step forward. In brief, this consists of a privy house, usually with no pit under it, open in the back so that the excreta can be removed. This type of privy, altogether too common in this country, is to be condemned as distinctly insanitary, although it is an improvement over promiscuous soil pollution. If the surface privy open in back is installed at all, it should face the north, so that the excreta will be exposed to the sun. It is advisable to have in the privy house a container filled with ashes, road dust, top soil, lime or sawdust, and with a small shovel each person can cover the excreta immediately with one of these drying powders.

The pit privy is a distinct advance over the open in back variety and is built in many different modifications. In brief, it is a hole in the ground (say 3½ or more feet deep, 40 inches long, and 24 inches wide), boarded near the top, on the inside, to prevent caving. The privy house, containing the box seat over the pit, completely covers and encloses the pit; dirt is banked around the base of the house to ward off water and to make the pit as dark as possible. When the pit is nearly full, a new pit is dug, the privy house is placed over it, and the old pit is covered with soil.

Pit Privy Is Fly Breeder

Certain distinct advantages and disadvantages are possessed by the pit privy. It is economical to build and it appeals to large numbers of the rural population, hence it is not usually difficult to induce them to construct it; on the other hand, it is a fly breeder (contrary to general opinion), and if the groundwater flows in the direction from the pit to the well, there is danger of infecting the well water. On the "down hill" side of the well (namely, when the groundwater flows in the direction from the well toward the pit), or in case of very low ground water (as when it is necessary to dig from 25 to 50 or more feet to obtain water), it is in general relatively safe; in localities of high ground water (as 1 to 20 feet) and in limestone districts, the pit privy is distinctly dangerous.

Experimentally, the writer has traced fecal bacteria in the ground water to a distance of 232 feet from a pit (in fine sand), and it is not known how much farther they can travel. It is important to recall that these bacteria travel in the direction of the flow of the ground water; evidence that they travel against the flow is at present not convincing.

Whatever evaluation a sanitarian gives to the pit privy, he must face the fact that in many localities of restricted finances, this is the highest type of excreta disposal he will be able to install for many years to come; it is, however, a grave error to put this type forward as a standard for families that can afford more modern conveniences.

The sawdust privy combines the economy of the pit privy with the advantage of eventual

actual removal of the excreta from the vicinity of the home, but its use is obviously restricted to the easy availability of sawdust. A water tight hogshead forms the excreta container; a stout barrel forms the seat box and is braced at its middle (equator) so as to fit on top of the hogshead, half in, half above the hogshead; a seat, with lid, is placed on top of the barrel. The hogshead is filled up to the bottom of the barrel with sawdust, which is also packed in the space between the outside of the barrel and the inside of the hogshead, thus making the container fly tight. The fluids sink into the sawdust; the solid feces and paper "cone" in the barrel.

A privy of this type will serve a family of five persons about three months. When it is necessary to empty the privy, a mule is hitched to the two runners, on which the hogshead stands, and the hogshead is dragged off to a field (say 500 to 1,000 feet from the home); the barrel is lifted out, the hogshead turned upside down, the excreta fall on the surface of the ground, the sawdust "cones" over the excreta, and this pile is allowed to remain in place. If preferred, the contents of the hogshead can be dumped into a furrow and plowed under.

Box and Can System Calls for Scavenger

When a community grows to sufficient size to permit it to have a regular scavenger for its privy system, the box-and-can type of privy is advantageous; but it is unwise to adopt this system unless an efficient scavenge system is assured. If not properly administered, the box-and-can represents a very filthy method of excreta disposal.

In this type of installation, a fly tight box, containing a can or other container, is placed in the privy house. The use of some harmless chemical, such as a diluted sheep dip or water gas tar, is advantageously placed in the empty can, which should be scavenged at least once a week.

Vault privies are prescribed for some localities. In some instances, these are water tight; in other instances not. If not water tight, the vault privy is essentially a pit privy. If water tight, the vault should be scavenged by a public scavenger, with proper pumping apparatus. In general, this type is not suitable to farm life.

Septic Privies Usually Satisfactory

Septic privies represent one of the advances of recent years and are in some respects the most satisfactory type, especially for rural life. They consist of two or three water tight tanks connected by slits, holes or pipes. One of these tanks is directly under the seat and is the receiving tank. This is filled up to its overflow outlets with water and here the excreta are broken up and liquified, by bacterial action (as in septic tanks) and the dangerous germs are largely killed. The overflow, with some suspended matter and with a greatly decreased number of disease germs, passes into the second tank, where the process of disintegration continues. From there the overflow passes into the third tank (if there are three), and eventually the effluent passes out through a series of tile pipes into the subsoil.

It is necessary to add a bucket of water every day or so to the receiving tank to take care of evaporation and to induce proper bacterial action; it is also usual to "seed" the first tank with a shovel full of manure or with one or more yeast cakes, to start the biological processes.

Chemical privies consist usually of a tank, frequently with an outlet at one end of the bottom for emptying. Caustic soda is perhaps the most commonly used chemical and is employed in the proportion of about 3 pounds of caustic soda to 97 pounds of excreta. In order to work satisfactorily, this type of privy must have an agitator, and the contents of the tank should be agitated every time the privy is used. Because of the mechanical devices necessary for agitation, these chemical privies are less suited to uneducated tenants than to educated owners of property.

Should Be Animal and Fly Proof

All privies should be made proof against access to the excreta by swine, dogs, chickens, rats, flies and roaches. In practice, however, privies that are not subject to regular inspection remain fly proof for a few months only. Usually sanitary regulations provide that the ventilating pipe, which as a rule extends from the receiving chamber up to above the roof, shall be screened.

A much better plan, however, is to insert two screen cones, each with a central aperture, into the ventilator with the cones pointing toward each other and thus to turn the ventilator into a neighborhood fly trap. By actual count in one case, about 97 per cent. of the flies caught in a trap of this kind were females that were entering the privy where they could lay eggs.

In general, a privy is a storage place for excreta, pending final removal. Unless the final fluid contents can pass through an opening into the soil or unless the excreta are buried in place, as in the pit privy, the contents must be periodically scavenged.

Herein lies one of the greatest difficulties in the privy system, and its solution calls for constant interest by inspection and constant expense to pay the scavenger. Many installations have proved unsatisfactory because of two reasons in particular: (1) the scavenging was inefficient and careless, and (2) the inspection was grossly negligent and inefficient.

Must Use Care in Fertilizing

The ultimate disposal of the scavenged excreta is accomplished in various ways. In

some instances, the material is run into a sewer or a small stream; in other cases, it is incinerated; in still other cases, it is used as fertilizer.

In case human excreta are used as fertilizer, the material should be dumped into furrows and promptly plowed under. Another method of restricted application is to dump it onto the surface of the ground in a sawdust box and to cover it with sawdust. Undoubtedly, excreta form a good fertilizer, but it is unwise to raise on land which has been so fertilized within one or two years any vegetables that are to be eaten raw. The best plan is to use the field for a year or two for raising grass. In warmer climates, especially, it is dangerous to work the soil with the hands, or to walk over it in bare feet, if fertilized within a year with human excreta.

It has been variously estimated that the annual fertilizer value of a human being varies between $1.20 and $7.50, and the question is often raised why an effort is not made to save this economic waste which in some of our cities reaches into the million of dollars annually.

The answer is that the subject has been studied in many countries and for many years and that the problem reduces itself to a balance sheet of dollars and cents. In a locality where labor costs little or nothing, as in India and China, the proposition of recovering the value of this fertilizer is practical, but in a country like ours, with a high wage scale, it would cost more to prepare the excreta of a large city for use as fertilizer than the excreta are worth.

Should Do Away with False Modesty

Prior to the days of the hookworm campaign, discussions of privies and of excreta disposal were considered as belonging to the inner circles of health officers and were tabooed as matters of general education. Fortunately the former false modesty, which has cost millions of cases of illness and of unnecessary deaths, is rapidly passing away, and the truly educated person is rapidly becoming converted to the principle that, for the family happiness, it is as important to know how to dispose properly of the discharged, undigested food as it is to know how to prepare properly the food which is ingested.

As people, especially mothers, learn to appreciate how many of their offspring are needlessly sacrificed because of the old-time false modesty, a more rational distinction will be drawn between humane delicacy and false modesty, and we may expect that methods of disposal will be improved over those under which our generation spent its childhood.

Defective Eyes Among Industrial Workers

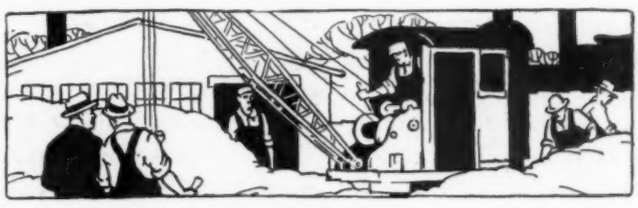
THE Eye Sight Conservation Council of America has recently announced the results of a test carried out by the Buick Motor Company on the eyesight of its employees. Of the 3,513 applicants who sought employment in a period of four months, 56 per cent. were found to have bad eyesight, a ratio similar to that found in other industrial establishments. Only 5.5 per cent. of this group had their vision corrected with glasses; 56 per cent. were in need of glasses.

The safety department of the company has conducted a prevention campaign against accidents. This campaign insists on compliance with certain rules of safety and the wearing of goggles by those workers who are in the slightest danger of eye injury. The number of eye accidents has been greatly reduced since 1921, when the goggle campaign was started. In 1920 thirteen employees were blinded in one eye; this was reduced to five in 1921, and three each in 1922 and 1923.

Lighting is an essential factor in the conservation of vision and much attention has been given to this matter in their several plants. Careful measurements of the amount and distribution of light are made from time to time.

The result of all this has been increased production, due to fewer accidents, less waste and spoilage of material, improved quality of workmanship and greater individual comfort and efficiency.

In view of the great losses which result from defective vision of industrial employees, it is regrettable to learn that not more than 150 companies in the United States employing upward of 1,000 persons consider it essential to test the eyes of applicants for employment. Still fewer companies carry on this activity periodically for permanent employees.



Plain Facts about Health and Disease

HEALTH NEWS OF THE MONTH

Surgical Treatment of Angina Pectoris

Some time ago attention was called in this department of HYGEIA to an operation that had been devised to relieve sufferers with angina pectoris from the excruciating pains accompanying attacks of that disease. At the same time, it was pointed out that such pains might well be considered a warning signal that too great stress was being placed on the heart.

Recently the matter has again been brought into the limelight by the fact that two American surgeons who have done considerable research on the subject had opportunity to meet Professor Wenckebach, of Vienna, who is well known as an authority on diseases of the heart, to demonstrate the operation before him and to discuss with him, and with other famous European physicians, the indications for, and the contraindications to, the operation.

It must be understood, of course, that the new method of treating angina pectoris, which involves surgical exposure of nerves conducting sensations of pain from the heart and the cutting of such nerves, must be considered as yet wholly in the experimental stage. Under such circumstances, the operation will not be lightly performed, but will, instead, be limited to conditions perfectly controlled and permitting of satisfactory judgment as to the end-results. It must be clearly understood by the patient that the operation will not relieve the underlying cause of the disease, but that it is intended primarily to relieve only the symptoms and, in fact, only the paroxysms of pain. There also enters here the point already mentioned, that relief of the pain may cause the patient to undertake physical effort which might have been prevented by his symptoms before the operation was performed. On the other hand, it is well known that relief from the mental stress and agony associated with the paroxysms may tend to lengthen the patient's life, as well as to make it more endurable.

The public should have these factors clearly in mind. Obviously, a new burden has been placed on the physician responsible for such a patient, since the determination as to the course of treatment which the patient is to follow will rest largely with him. His responsibility is particularly great since angina pectoris is sometimes confused not only with other diseases of the heart, but also with pains arising from other causes and referred to the heart region.

Periodic Health Examinations

It is no secret to the readers of HYGEIA that the medical profession has been urging periodic physical examination as a means of early detection of lesions of disease and as a means of preventing disease and of prolonging life.

In its endeavor to bring this matter prominently before the public, the members of the Kings County Medical Society in Brooklyn, New York, staged a demonstration of what might be accomplished through such examinations. Ninety-one physicans submitted to a personal health examination; a thorough analysis of the findings was made and submitted to the society. It was found that the doctors themselves rated better in general health than did other members of the community of a corresponding age.

It was not explained, however, just why this should be the case, unless it was due to the infrequency of bad conditions within the mouth and of constipation among physicians. The blood pressure also seemed, in general, to be lower than that in laymen of a corresponding age. The general conclusion was reached that physicians, despite irregular hours of work, irregular routine in life as to meals and sleep, and less systematic exercise and recreation than are usually considered advisable, must achieve their good health by, subconsciously at least, practicing what they preach.

Criminals and Defectives

Out of a total population in the United States of approximately 110,000,000 persons, on January 1, 1923, there were 893,679 persons, or approximately one in every one hundred and twenty-three, confined in institutions and supported by the state because either mentally defective, dependent, criminal or delinquent. The fact that so large a part of our population does not meet the demands of society must inevitably arouse the question whether the strain of modern civilization is passing the limit of human endurance.

The large amount of juvenile delinquency indicates, probably, a lessening of the intimate bonds and the attitude of mutual responsibility which were formerly the pride of American home life. Certainly such facts as these must stimulate leaders in economics and sociology to more intense consideration of these fundamental problems of society. M. F.

AMENDMENT XX TO THE FEDERAL CONSTITUTION

THE child labor constitutional amendment bill has been passed by Congress, signed by the President, and is now to be submitted to the several states. The amendment, which authorizes Congress to enact legislation in reference to the employment in labor of children under 18, has already been ratified by the legislature of Arkansas, and was signed by the governor, June 29.

Nothing is more essential to the health and welfare of each generation than that children should be guarded against the iniquity of forced labor at unsuitable, health-wrecking tasks for unreasonable hours. Said Representative Watkins, during the discussion of the bill: "Childhood is endowed with certain inherent, inalienable rights that tower over and above any and all material progress. Among these rights are freedom from earning their daily bread by the sweat of their brow; the right to play and to dream, the right to sleep when night steals over day; the right to be educated and to pursue and enjoy the happiness of childhood and the company of other children."

It is very probable, if this amendment is ratified by the necessary majority of states, that it will stimulate every one of the states to pass adequate effective child labor laws. But should they not do this, for all who are interested in the welfare of children and who are far sighted enough to recognize the cruelty, the folly and the wastefulness of exploiting children in harmful labor, there will be a comfort and satisfaction in knowing that, if necessary, Congress can intervene with wise, protective child labor legislation. J. M. D.

TREATING CRIPPLED CHILDREN

LITTLE NELLIE didn't want to be seen by a physician. She had a clubfoot, but she didn't like to be reminded of it, and she wept at the mention of the doctor's name. Finally, after being solicitous and sympathetic for a long time, the cruel parents took her to a physician. He suggested treatment and applied a brace. Once home, however, little Nellie wept and coaxed until the bandage was removed and the treatment discontinued. The parents listened to her whims again. Result: Another doctor has been outwitted, and a crippled condition permanently established.

This is not a scenario for a "Kiddy Komedy" done in Hollywood. It is the actual experience of an orthopedic surgeon. While orthopedic medicine has taken great strides recently, the physician declares that the psychology of the crippled child hasn't changed at all, nor has the psychology of mothers and fathers who pamper their crippled children in opposition to the physician's orders. And as long as the crippled child opposes treatment no progress can take place.

"In using the term, 'psychology of the crippled child,'" said the physician, "I include not only the behavior reactions of the child himself, but also the attitude toward the child of all who are associated with him—parents, companions, nurses and physicians. We have to do, therefore, with the psychology of a situation of which the crippled child is a part.

"In this situation, the outstanding element is the fact that the crippled child, whether in poor, moderate or opulent circumstances, is almost invariably a spoiled child. The process of spoiling is twofold. On the part of the parents, it is the result of the expression of natural human affection in a situation that makes of the child an object of special attention and devotion. On the child's side, it is almost invariably the tendency to exploit his handicap for the purpose of securing still further notice and indulgence.

"Certainly, the crippled child is entitled to special attention. But, more than this, it is well known that parents always have an overflow of sympathy for an afflicted child in excess of what they feel for a normal and robust one; and in their treatment of such a child they attempt not only to compensate him for his defect, but also, quite unconsciously, to relieve their own feelings of distress and tenderness. And sympathy in these cases is not confined to parents; brothers, sisters, playmates and teachers, and even nurses and physicians, quickly acquire it, and the child finds it easy to dominate the little world of which he is so pathetic a center."

The majority of crippled children quickly acquire the ability to use this advantage for their temporary physical comfort, with the result that "many children afflicted with various types of bone, nerve and muscle diseases, in which early treatment would prevent a life-long

crippled condition, are too often not seen by a physician at all."

Early treatment is of the utmost importance in orthopedic preventive medicine. Today, physicians do not wait until the child is old enough to have the deformed limb placed in a cast. Treatment begins in the first months of life in conditions such as clubfoot, and consists of simple daily painless manipulation by the nurse or mother under the physician's direction. At two or three months, light casts and bandages may be applied. Where cooperation is satisfactory, no knife is used for correction. Deformities from rickets may also be prevented by proper care, beginning with ways of holding a rickety child in infancy to later care and treatment. Exercises and proper care of children who have had infantile paralysis also prevent deformities to a great extent. R. C.

HEALTH EDUCATION BY RADIO

THE dissemination of health information by broadcasting over the radio has grown rapidly since the first health message was delivered in this way by Dr. Hugh S. Cumming of the U. S. Public Health Service in July, 1921. Beginning with September of that year, health talks by radio have been given by the Public Health Service for two fifteen-minute periods each week. Within six months, six commercial broadcasting stations in different parts of the United States and Canada had secured the privilege of using these lectures. This number has steadily increased until there are now forty-eight stations cooperating.

The health talks have been translated into sixteen foreign languages and have been extensively copied in foreign language newspapers in this country and abroad. Since January 1, 1924, this service has been on a weekly basis, the lectures averaging about 1,200 words in length and requiring about ten minutes for delivery.

Numerous other agencies such as state departments of public health, local medical societies and publications of all sorts have followed suit, until, at present, one who is listening in on the radio any afternoon or evening is quite certain to hear a talk on some health subject as part of the program. No estimate of the number of persons reached in this way is possible but it certainly runs into many millions.

The radio has become one of the most potent agencies for the education of the public along health lines. Experience has shown that to catch and hold the attention of the radio audience such talks must be on a timely topic in language intelligible to the non-medical person and must be brief.

The possibilities of good through such radio lectures are enormous. On the other hand, the possibilities of harm, by means of untruthful statements or unwise advice, are equally great. This imposes a great responsibility on those who have charge of the radio stations. Many of the more important stations now require that all material to be broadcasted be submitted in advance in writing and that the speaker hold himself rigidly to the text. J. M. D.

VACCINATION AGAINST SMALLPOX: ANOTHER PROOF OF ITS POWER

THE recent experience of Lansing, Mich., affords another bit of incontrovertible evidence of the certainty with which wholesale vaccination, promptly carried out when smallpox threatens, will protect a community against this disease. About June 1, eight persons, who had attended the funeral of an undiagnosed case of smallpox, became afflicted with this disease in severe form. This occurred in Haslett, a little village near Lansing. Subsequently, three other cases appeared in Lansing from other sources.

Smallpox was prevalent in other parts of Michigan—1508 cases, with 140 deaths, having occurred in the nearby city of Detroit in the first six months of the year. Fortunately for Lansing, the state commissioner of health was in that city, the state capital. He at once called a meeting of the officials of the numerous manufacturing establishments of Lansing, and on the same day a meeting of the proprietors of the commercial establishments.

The threatened danger of a smallpox epidemic was explained and it was emphasized that the only sure way of preventing this was wholesale—100 per cent.—vaccination. This could be accomplished either by voluntary action of every inhabitant or by the use of the health officials' authority with which they are empowered by law, in case of threatened smallpox, to demand the vaccination of every person in the community, or the rigid quarantine of all those who refused to be so protected.

The manufacturers and merchants promptly elected to cooperate by insisting on the vaccination or revaccination of every one of their employees who had not been successfully vaccinated within a reasonable period. The campaign was begun at once and within a day or two signs began to appear in the windows of the stores and factories which read,

"Employees of this establishment are 100 per cent. vaccinated."

Between June 1 and June 20 there were vaccinated in Lansing and the immediate vicinity, by private physicians, 56,558 persons; 35,387 were vaccinated by the city and state health departments, making a total of 91,845 out of a population of 131,261. It is estimated that 70 per cent. of the residents of Lansing were vaccinated in these 20 days. Most of the remainder of the inhabitants were already protected by successful vaccination. As a result, not a single additional case of smallpox had developed in Lansing up to July 18, and, in the whole county, only six cases, all in one family. No accidents of any moment have been reported.

Vaccination, and that only, can arrest a threatened epidemic of smallpox. Vaccination repeated at intervals gives sure protection against smallpox. Vaccination, as now performed, is safe and harmless. J. M. D.

RHEUMATISM

ALL sorts of conditions affecting the joints, in fact, any group of symptoms which includes pains in bones, muscles or joints, is likely to be called rheumatism. When such conditions are carefully investigated by the physician, he may make a diagnosis of gout, lumbago, or inflammation brought about by the attacks of various bacteria, such as the streptococcus, gonococcus or the tubercle bacillus.

Conditions are so poorly defined that it has not been possible thus far to assemble any worth while statistics as to just how often rheumatic disease occurs. These facts caused the Ministry of Health of Great Britain to undertake a special investigation of the subject, in which they enlisted the cooperation of many leading practitioners throughout England and Wales. Records were assembled finally concerning 90,891 people, which included 64 per cent. of men and 36 per cent. of women, all of whom were workers under the Social Insurance Act. Of these persons, 66,000 lived in great industrial centers, and the remainder in smaller cities and in villages.

It was found that among the 90,891 persons, there occurred during the year 2,510 cases of rheumatic disease, or in percentage, 2.76 per cent. of those concerned. If this be taken as it concerns the working population of the country, there would be included among 25,000,000 workers, about 700,000 to 800,000 cases of rheumatic disease.

Of the 2,510 cases of rheumatic disease, which were seen by the British physicians, 1,771 were men and 739 women. Scientifically, the cases were classified as acute rheumatism, subacute rheumatism, muscular rheumatism, lumbago, sciatica, inflammation of the joints, inflammation of the bones and joints, gout and unclassifiable chronic changes in the joints. It was found that men suffer more often than women with lumbago and with sciatic neuritis. Only three women were observed with gout, whereas 150 men were sufferers from this disorder.

Special studies were made of the relationship of the climate of the various towns to outbreaks of rheumatism, and also of the occupations of the patients. It was found that the largest number of men, nearly one-fourth, were machinists; next more frequently, general laborers; next, teamsters and traffic workers; then miners and quarriers, builders, wood workers, clerks and farmers. Of the 739 women, 156 were engaged in indoor domestic service, 133 in outdoor domestic service and 127 in dress occupations.

Special attention was also paid to the dampness of the houses in which those affected lived. In general, dampness of houses is a condition which should be condemned, as a result of experience, and in relationship to other diseases as well as rheumatism. It has been accepted that dampness of the living quarters bears a relationship to outbreaks of acute rheumatism.

For some time it has been believed, following demonstrations by scientists in various parts of the world, that the condition of the teeth is very definitely related to the causation of rheumatism. In classifying the condition in the mouths of the patients studied, they were described as:

1. Good teeth and clean mouths.
2. Mouths without teeth.
3. Slight pyorrhea with bad teeth or stumps.
4. Bad teeth or stumps without pyorrhea.
5. Pyorrhea alone.
6. Badly infected mouths, with pyorrhea, faulty teeth and many stumps.

The women were found to have on the whole cleaner mouths and better teeth than the men. Among the women, those with lumbago particularly had a high incidence of severe dental infection. While the statistical findings were not conclusive, impressions resulted that dental infection is frequently associated with all rheumatic diseases.

A large percentage of the patients with rheumatic disease had infected tonsils. Most physicians agree with the statement of Professor Bulloch that 80 per cent. of patients with acute rheumatism had affections of the throat, preceding or during the attack of the disease.

It is also generally well known that inflammation of the lining of the heart, known as endocarditis, quite frequently is associated with or follows rheumatism, and the survey made by the Ministry of Health confirmed this fact. In 109 patients with acute rheumatism, there were fifty-one with recent or old infections of the heart. What relationship this bears to the general incidence of heart disease is indicated by the fact that out of 2,500,000 men examined for the United States Army, 88,000, or only 3.52 per cent. had heart disease.

On the whole, the investigation yielded some facts of great importance to the health and economic condition of the community. Rheumatic diseases represented one-sixth of the total amount of time lost for all diseases among insured workers in Great Britain. More than one-seventh of the total sick benefit paid out was represented by rheumatic diseases, and it was estimated that 3,141,000 weeks of work are lost annually by 13,000,000 insured workers in Great Britain. In acute rheumatism, nearly 50 per cent., and in subacute, nearly 25 per cent. of the patients showed signs of recent or old heart disease. Of the patients with acute rheumatism, nearly 50 per cent. had large, septic tonsils, and only 2 per cent. of the patients with acute rheumatism had had their tonsils removed.

These investigations show definitely the importance of early removal of foci of infection in the teeth and in the tonsils, as well as in other parts of the body, if rheumatism is to be prevented. They show also the very direct relationship of dampness, chilling of the body and poor protection against severe climates to outbreaks of rheumatic diseases.

Probably few people realize the economic cost in time lost and in sick benefits paid resulting from these diseases, which are likely to be regarded by the public as minor complaints.

M. F.

HYGEIA HEALTH POSTER CONTEST

The Response—Its Significance

IN the August issue of Hygeia there was printed a list of the prize winners and those receiving honorable mention in the health poster contest. Because of the amazing number of posters received, it has been decided to give a year's subscription to Hygeia to 200 additional contestants whose posters ranked next in merit.

The editors of Hygeia wish here to express their deep appreciation of the splendid response of high school pupils of the United States and Canada to the modest prize offer. It was thought when the contest was projected that we might expect two or three hundred posters, but when, about the middle of May, "the dam broke loose somewhere" and they began to arrive at the rate of fifty, one hundred, two hundred, and, finally, five hundred per day, the flood was simply overwhelming.

A display of 1,000 posters in the American Medical Association building has been visited not only by many physicians and their friends, who attended the annual meeting of the association, but by many others. A smaller group of posters has been on exhibition in a window on one of the busiest avenues in Chicago, with an invitation to the thousands who pass to visit the larger collection.

We wish it were possible for every pupil and every teacher in the schools from which these posters have come to view the collection on exhibition at the American Medical Association building. The unanimous expression of those who have seen the posters on display is one of amazement at their excellence.

May we say again that the most significant feature of the display, having regard both to the number and the high quality of the posters, is the demonstration of what is going on in our public schools in the matter of health education. The pupils of today are thinking in terms of health; for the most part, of positive health and efficiency, not of health as a mere dodging of disease. They are thinking of health so sanely and effectively as to be able to express their ideas in telling, graphic form. And, surely, as a corollary to this they are forming proper health habits, and developing sane, correct ideas about hygiene and sanitation.

In the fact that we are developing a new generation of citizens so indoctrinated with correct notions of health lies the surest guarantee of a healthier, happier nation. From such citizens we may confidently expect, not only better habits of personal hygiene, but a keen appreciation of the importance of public health measures and a hearty support of and sympathetic cooperation with public health officials.

J. M. D.

THE HEALTH CENTER MOVEMENT IN CHINA

DR. V. R. APPLETON writing of health work in that country in the *National Medical Journal of China* says:

The health center movement in China is growing rapidly, as in most countries. Already several centers are functioning here in a modest way. The movement bids fair to be the next most important step in public health.

From every side come the questions: What is a health center? How can we organize a health center? Won't you tell us exactly what we should do?

A health center is an institution located in a certain district, or community, for the express purpose of promoting the health of all people in that district or community. The health center idea has been evolved by public health workers in response to a universal need for a method of securing the practical application of scientific knowledge concerning health and disease to individual cases.

He says further that the health center differs from the dispensary in that:

(1) It takes as its clientele not just the sick who come for treatment, but every person in the community. The test for 100 per cent. efficiency is the improvement in the health of every individual. If the center undertakes vaccination against smallpox its object is vaccination of every person in the district.

(2) The center concerns itself with well, or near-well, people. It is a diagnostic, not a treatment clinic, the purpose of which is the conservation of health. The purpose of its health examination is to engage the individual's interest in his own health and give him needed instruction in hygiene. The health center is a point of view which emphasizes health rather than disease.

Dr. Appleton feels that the making of a hospital into a health center is one of the forward-looking movements of the day. After deciding whether the hospital will give this special intensive health service to the families of patients who come to the hospital for treatment, or to a definite section of the city nearby, the group of activities to be undertaken must be agreed on. This depends largely on the special training of the available physicians, nurses, and social workers, and the needs of the place.

In general it is wisest to focus this intensive type of work entirely on the young and undertake first the promotion of the health of pregnant women and of children. Every pregnant woman in the district is sought out and urged to come periodically to the prenatal clinic for instruction in the hygienic measures required by her condition and for the necessary examinations. Arrangements must also be made for her care at the time of confinement, preferably in a suitable hospital. Of course the service is not extended to women who are already under the care of, or who can command the service of, a competent physician.

In a similar way the health of children is safeguarded by periodic examination and advice, and mothers are instructed in the care of their children.

With an obstetrician, a pediatrist, and the necessary nurses, any hospital can start health center work by devoting a half day a week to such a health clinic. A social worker adds to the efficiency of the center. The so-called "waiting room" of this health clinic is really a center for health teaching by demonstrations and frequently changed exhibits, the teaching being done by these means rather than by lectures.

Many other activities can be carried on in health centers, such as nutrition classes for undernourished children, supervision of school children, classes to train children in proper health habits, dental hygiene, and supervised recreation. It is best, however, to do well intensive work along a few lines, rather than to attempt too much in many directions. The prenatal clinic and the children's health clinic, with a visiting nurse in the home, is the first program to be undertaken, and nothing else should be added until these have reached a high degree of efficiency.

One can readily imagine the revolution in the conditions of a Chinese community which would result from such a health center. There are still thousands of communities in our own country in which just such health activities are needed, and hundreds of hospitals whose service to the communities in which they are located could be greatly enhanced by their becoming "health centers." J. M. D.

ROCKY MOUNTAIN SPOTTED FEVER

TWO cases of Rocky Mountain spotted fever have been reported recently in the northeastern part of California, says the California State Board of Health in a recent bulletin. The disease is endemic in that region and also in Colorado, Idaho, Montana, Nevada, Utah, Oregon and Wyoming. It has also been found in South Dakota, Washington and British Columbia. A vaccine which protects against this disease has been developed recently by Dr. Noguchi of the Rockefeller Institute.

It is of interest to recall in this connection that one of the noteworthy accomplishments of American medicine was the discovery by the late Dr. Howard Taylor Ricketts, of Rush Medical College, Chicago, that the disease is transmitted by wood-ticks which infest gophers and other wild and domesticated animals of the regions where Rocky Mountain fever prevails. This discovery made possible preventive measures which comprise chiefly those having to do with the control of wood-ticks, disinfestation of domestic animals, and the cleaning and cultivation of land, destruction of brush, etc.

Dr. Ricketts later lost his life, a martyr to science, while he was engaged in the investigation of typhus fever—the dreaded tarbadillo—in Mexico City. He had demonstrated conclusively that this disease is transmitted by the body louse. In the course of this investigation he was himself bitten by an infected louse and died from typhus fever. J. M. D.

JIMMY'S FIRST DAY IN NUTRITION CAMP

C' MON FELLOWS HERE'S A NEW BOY!
MONDAY EVENING
WHATCHA DOIN'?
WE ALWAYS AIR OUR BEDS BEFORE BREAK FAST.
7 A.M. TUESDAY
MY, I'M HUNGRY!
DO YOU HAVE GOOD THINGS TO EAT?
SURE!
7:30 A.M. BREAKFAST
MY DUTIES ARE ALL DONE. YOU WON'T BE SO SLOW AFTER YOU GET USED TO IT.
8:30 A.M. DUTIES
9 A.M. SUPERVISED PLAY
YOU'LL GET SO YOU'LL LIKE CRACKERS 'N MILK BETTER 'N CAKE!
10:30 A.M. MORNING LUNCH
JIMMY, YOU MUST LIE PERFECTLY STILL WHEN YOU TAKE YOUR REST!
10:45 MORNING REST
GOOD THROW JIMMY!
11:30 PLAY
MAY I PLEASE HAVE SOME MORE SPINACH!
HURRAY FOR JIMMY!
12:30 DINNER
JIMMY WILL SOON MAKE THAT UP.
8 POUNDS UNDERWEIGHT!
1:00 P.M. WEIGHING
FINE! THAT'S THE WAY TO REST, BOYS!
2 P.M. AFTERNOON REST
2:45 P.M. SHAMPOO - BATH
I'M GOING TO HAVE A BOAT SOME DAY!
SO'M I
3:15 P.M. AFTERNOON LUNCH
SAY, THIS IS GREAT!
SO'S THIS!
3:30 P.M. PLAY
HURRY UP - I'M STARVE
6:00 P.M. SUPPER
TOMORROW YOU'LL HAVE A SWIMMING LESSON JIMMY
6:30 PLAY
O BOY, I'VE HAD A GOOD TIME TO-DAY!
DING DONG DING DONG
8 P.M. FIRST BELL FOR BED
8:30 P.M. ASLEEP - WINDOWS OPEN
WHO'S THAT BOY, SON? HE'S BIG LEAGUE STUFF!
PLEASANT DREAMS!

BY EDITH INGERSOLL BULLEN

Dottie and the Sneeze

MARGARET E. GREENWOOD AND ELEANOR M. FONDA

BIG Brother Donald, proud of his twelve years, and little sister Dottie, usually called "Dottie Dimple," had been to see Aunt Jeanette, and had come home on the trolley.

Dottie dearly loved a ride in the swaying, jolting trolley car. She was always interested in everything she saw or heard, and on the trolley there were so many things to see and to hear; so many people, so much going on.

The ride this day had been particularly interesting and she was bursting with eagerness to tell Mother all about it. So was Donald, though from a reason quite different. Once in the house, both made a dash for mother, and two excited voices began at once.

"Oh Muvver," cried Dottie, tugging at her mother's dress, "Muvver, the poor little dirl she dot' no Mama, and the naughty lady sneezed at her papa! I duess she fordot her hank'shif. And—and can't the little dirl come play here? She's all alone, and—"

"Mother," said indignant Donald, "Dottie's the limit! What do you think she did? Everyone in the car was looking at us and laughing, and you should have seen how mad the lady was! And she was mad at some one besides the little girl's father, too!" (Here he looked severely at his sister.) "Dottie certainly is the limit!" he repeated.

The little sister's lips began to quiver. "But, Muvver, the lady was naughty—"

"Children! Children!" Mother put her hands over her ears. "What are you talking about, and how can I understand if you both talk at the same time?" She lifted Dottie to her lap. "Let Brother talk first, darling, and then you can tell Mother afterward. Now, Donald."

"Well," Donald began, "when we were coming home, the street car was so crowded that we had to stand; and a lady sitting in a seat near us kept sneezing—"

"Wight on the poor man's neck"; this from little Dottie.

"Yes," agreed Donald, "on the man who sat in the seat in front of her. And when she wasn't sneezing, she was coughing. I guess she had an awful bad cold."

"And, Muvver," Dottie couldn't help interrupting, "she didn't put up her hank'shiff to cough in like you tell us."

Mother smiled at the earnest little face. "Wait, darling, and listen to brother."

"Well, the man in front of the lady got nervous, I suppose," Donald continued, "because every time she'd cough or sneeze he'd fidget and pull his coat collar up around his neck; and then"—here Donald stopped to giggle at the recollection—"then she gave an awfully loud sneeze; it made every one jump. The man couldn't stand it any longer because he turned around and looked at her, and he said, 'Great Scott, lady, haven't you a handkerchief to sneeze into, instead of using the back of my neck?' And a boy sitting next to the lady snickered and so did some of the other people!"

Donald giggled again and even Mother had to smile, though she looked a little worried too. Donald caught cold so easily, and he was so careless.

"And, say, that lady was angry," Donald went on. "Her face got as red, and she said that the man wasn't a gentleman! And he said he'd rather be a *live man* than a *dead gentleman!* He was sorry after he said that, because he told her that his wife and little boy died last year. They caught cold, and then the colds turned into something else. I forgot what he said, but any-

way they died, so he has to take care of his little girl all by himself. If anything happened to him, he said, she would have to go to an orphan asylum. That was why he had to be careful not to get sick, and he was awfully afraid of colds.

"Then"—here Donald's voice rose shrilly at the remembrance of the shock he had received —"Mother, what do you think *Dottie* did? She piped right up so that everybody heard her and she said—"

The disapproval in her brother's voice was more than Dottie could bear.

"Muvver," she cried, twisting around and putting her dimpled hands on either side of her mother's face, "Muvver, I just tell the lady, hasn't she dot a clean hank'shif to put in front of her mouf when she cough and sneeze? I tell her my mama say I must always do that, and I tell her I dot a nice clean hank'shif she can have 'cause I haven't used it, but"—here Dottie's voice shook and she hid her face on Mother's comforting shoulder—"the lady wouldn't take it!"

"Take it! I should say not!" said the scandalized Donald. "Yessir, Dottie pulled out her handkerchief and offered it to that lady and she was the angriest lady I ever saw. She wouldn't even stay on the car. She banged down the aisle, scolding all the way, and she got out. And the people laughed and laughed, and every one kept looking at us. I was so ashamed, I got as red as the lady did. Mother, you ought not to let Dottie do things like that."

Mother's voice was very gentle when she answered.

"Donald," she said, "don't you think that all those people knew that little sister was right and that she meant to be kind? Don't you know that she remembers what Mother says, when sometimes a big boy forgets? And the big boy is old enough to understand why it is dangerous to others to cough and sneeze without covering the mouth, especially when many dangerous diseases begin with a cold or a cough. I am not ashamed of little sister; I am proud of her! If every one were as careful as she is, there would be much less sickness in the world."

Cheerfulness

A cardinal whistled his silvery tune
High up in a maple tree,
"What cheer! What cheer!" rang his merry notes.
"Here is Health for you and for me.
Health does not shine on a sorry face,
A face that will frown or pout.
What cheer! What cheer! In work or play
Let only the smiles come out."

ESTHER M. ALBRIGHT

HEALTH NEWS AND VIEWS

EPSOM SALT PROTECTS AGAINST MOTHS AND VERMIN

That for use in trunks, cupboards and other closed spaces Epsom salt is preferable to naphthalene for protection against moths, cockroaches and vermin of all sorts is the interesting observation of Dr. Paul Mitchell, an Australian quarantine officer, in a recent number of *Health*, an Australian publication.

Dr. Mitchell says that on opening passengers' baggage for fumigation he had noticed that magnesium sulphate (Epsom salt) was sometimes used by travelers for the prevention of vermin. He determined, therefore, to test its value as contrasted with that of naphthalene in the linen cupboards of the Cape Pallarenda quarantine station, which was considerably troubled by the presence of moths, cockroaches, silver fish and a species of ant.

The cupboards were carefully cleaned out, the linen replaced and magnesium sulphate crystals scattered over the linen and shelves in one block, while naphthalene was used in another block. Weekly observations were made. At the end of three months traces of vermin were found in the cupboards where naphthalene was used, while those sprinkled with Epsom salt were free and the crystals of the salt as crisp as ever.

The difference in favor of magnesium sulphate was more noticeable at the end of five months, and by the end of a year the cupboards were still quite free from vermin, although the magnesium sulphate had deteriorated slightly, about a third of the crystals having turned to powder. These observations were confirmed by other trials. When tried in the open wards of the hospital, however, on mattresses, for example, the magnesium sulphate was found to deteriorate to a powder.

Dr. Mitchell concludes that Epsom salt is of far greater efficiency than naphthalene for the protection of linen and other fabrics against moths, cockroaches, silver fish, etc., but, that on account of its rapid deterioration in the open it can only be employed in closed spaces.

PROBATION FOR DELINQUENTS PAYS

Putting juvenile delinquents on probation results in rescuing many children from what might become careers in crime. This is the verdict of the Massachusetts commission on probation, appointed by the legislature to find out what happened to probationers after they had been discharged from supervision.

Nearly 300 boys between seven and seventeen years of age were included in the study; 239 of these boys, it was found, were carried through the original probation period without surrender and commitment. Sixty per cent. of the boys discharged from probation to the community had no subsequent court record, and 87 per cent. had not at any time been committed to institutions.

In order to find out something about the habits and work records of these boys after their discharge, nearly 200 of those who had been put on probation in 1915 were studied during 1923. It was found that 78 per cent. of them were steady workers and 87 per cent. were non-drinkers. The best showing was made by the boys on probation for one year or more.

BAKERS TO HONOR PASTEUR

A bronze bust of Louis Pasteur will be unveiled and dedicated on September 10 at the American Institute of Baking in Chicago. The bust is a replica of the one by Paul Dubois in the Carlsberg Laboratories, and is presented to the American Institute of Baking by the sons of Capt. Jacobsen, who had the original bust made.

Not all of those who know of Pasteur's great medical discoveries are aware of the fact that he also is known as the father of modern baking. The first problem attacked by Pasteur was that of yeast and his discoveries revolutionized the baking of bread as well as the brewing of beer.

Dr. Sorenson, a scientist from Copenhagen, will deliver the address at the dedication ceremonies.

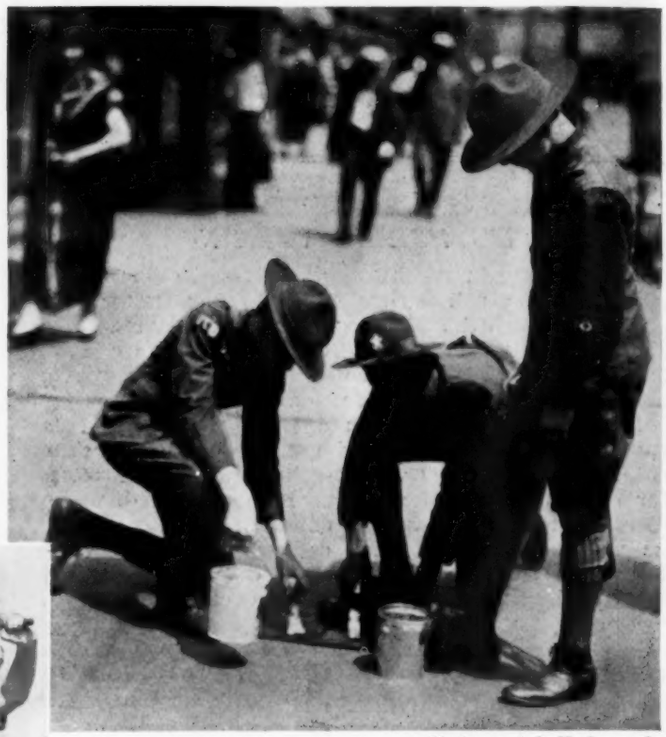
CHILDREN WORK ON PERSIAN RUGS

A minimum age of eight years for boys and ten for girls is established in the carpet-weaving industry by a decree issued in December, 1923, by the governor of the Persian province of Kerman. The new decree also provides for a maximum working day of eight hours, separate work places for boys and for girls, prohibition of the employment of workers suffering from contagious diseases, prohibition of underground or damp workshops and other regulations to secure better working conditions.

This decree confirms and in some respects extends the measures taken by the Persian government some time ago at the suggestion of the International Labor Office, says the U. S. Children's Bureau.

SAFETY OR SORROW

Boy Scouts of Chicago played a large part in the recent safety drive conducted in that city, in an effort to reduce the number of deaths and injuries due to careless accidents. The scouts painted SOS signs on the sidewalks at crossings, the slogan of the campaign being "Safety or Sorrow."



Underwood & Underwood

GIRL GOLFER DEFEATS MOTHER

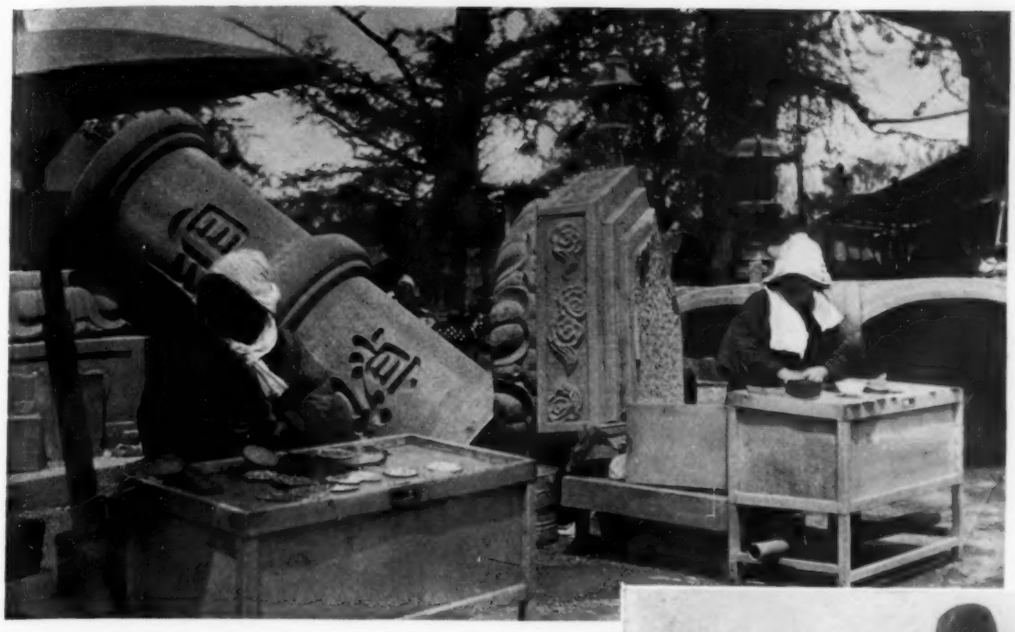
The first mother and daughter golf tournament reported is the one held recently at the Westchester-Biltmore Club, Rye, N. Y., to aid a college alumnae drive. The girl golfer in the photograph was too much for her mother and won first honors at the tourney.

Pacific and Atlantic

PETER PAN RETURNS

Below is a scene from the nature carnival held recently as a part of the Fun Fair at St. Dunstan's, England. The carnival was a benefit for the "Save the Children" Fund and was attended by the Duke and Duchess of York.

Pacific and Atlantic

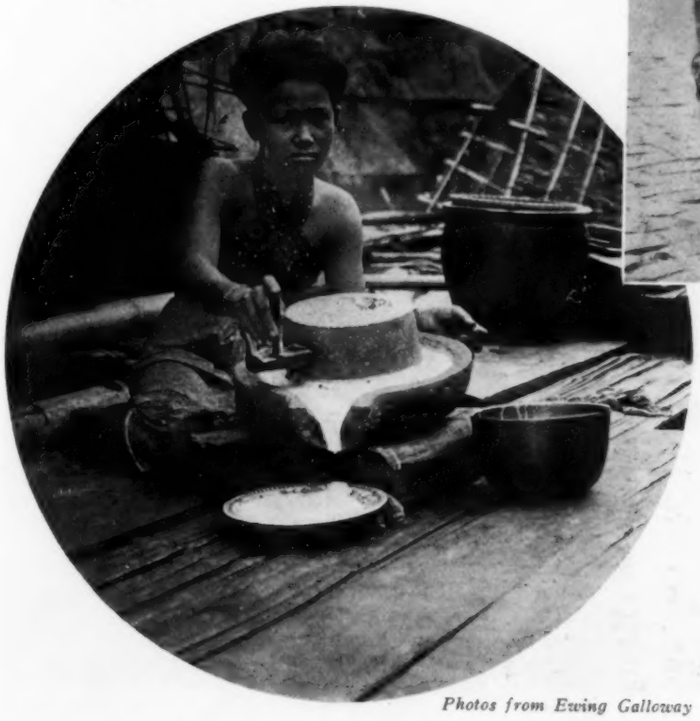


10 MONTHS AFTER EARTHQUAKE

Among the pillars of the wrecked architectural glories of the Japanese empire, women have set up their little candy stalls. The photograph was taken ten months after the earthquake in a park which still is a refugee camp.

IN THE CITY OF THE RED FEZ

A refreshment pedler in Constantinople. He serves his wares in fancy dishes and carries lamps to light his business at night.



GRINDING RICE IN SIAM

In a crude stone mill, this little Siamese girl is grinding wet rice for the family table.

Photos from Ewing Galloway

A FIELD MEET IN FRANCE

The opening event in a recent field meet for children held in the beautiful Bois de Bologne, Paris, was the native dance in costume, shown above.

American games are being adopted by the French as can be noted in this lively game of push-ball and in the tug of war. The latter event was participated in by boys under ten.

Photos by Underwood & Underwood

WHAT HAPPENS WHEN MILK IS NOT KEPT COOL

How important a matter it is to keep milk cool has recently been brought out in an investigation made by the city health department of Topeka, Kansas.

The health officers took three bottles of milk from the same milking, the bottles first having been sterilized in an autoclave. Approximately 16 hours had elapsed from the time of milking until delivery, when bacterial analysis was begun. The results were as follows:

Bottle No. 1 contained milk that was cooled immediately to 50 degrees. The bacterial count was 50,000.

Bottle No. 2 was not cooled for four hours after it was bottled. At the end of this time, the milk was cooled to 50 degrees and kept cold. In those four hours, the bacteria grew so rapidly that the count was 150,000.

Bottle No. 3 was bottled and allowed to stand in the room without any attempt being made to cool it. As a result, the bacterial count was 5,000,000.

A second investigation will prove equally interesting to housewives. It was made on milk that was taken from the ice box after delivery in the home and left to stand in a warm room.

Bottle No. 4 was delivered, the top washed and dried, put in the ice box with a tumbler over the top. After 24 hours it was taken out, and a count showed the presence of 30,000 bacteria.

Bottle No. 5 was placed in the ice box on delivery, taken out later and left to stand on the kitchen table for four hours. The bacterial count was 260,000.

Bottle No. 6 was allowed to stand in the room for eight hours; the count was 1,000,000.

Not infrequently bottles of milk may be seen standing on the porch hours after delivery. Housewives, too, are often careless about taking the milk out of the refrigerator and neglecting to put it back promptly. The Topeka investigation shows the results.

SCHOOL CHILDREN CARRY INSURANCE

Switzerland is the first country to inaugurate government insurance of school children. In some cantons it is voluntary and in some compulsory. The Canton Vaud was first to insure its children. In 1922 the government of the Canton Basel insured against sickness and accidents all pupils in the public schools, from the kindergartens to the higher grades of the industrial schools. Other cantons and municipalities have taken steps in the same direction.

In this, as in the other forms of government insurance, the premiums are paid jointly by the children and the government. It is reported that a bill for insurance of school children against sickness has been introduced in the Portuguese Senate.

GIVES FIVE CAUSES OF MALNUTRITION

Five causes of malnutrition are recognized as most important by Dr. William R. P. Emerson in a recent *Survey*. These in order of their importance are:

Physical defects, especially adenoids and bad tonsils.

Lack of home control.

Overfatigue.

Faulty food habits, and improper and inadequate food.

Faulty health habits.

Dr. Emerson defines malnutrition as the results of serious disturbances of "the process by which the child takes in and utilizes food substances."

"The infant is carefully watched," says Dr. Emerson. "We follow his weight chart and make changes without becoming hypnotized by the fact that some older relative of his is thin and underweight. He is subject to constant physical examinations without the misleading impressions caused by the presence of clothing. We know his program for every part of the twenty-four hours. We are concerned with his mental hygiene, play, sleep, activity, and rest.

"What the nutrition program means is the carrying on of our excellent program for infancy throughout the entire period of growth. This requires systematic weighing and measuring; records of forty-eight consecutive hours with reference to activities and feeding; a complete physical growth examination at least once a year; adequate social and mental examinations; the placing of health and physical fitness before any social or school requirement.

"Having found the cause of the child's malnutrition, it is necessary for success in its treatment to coordinate the four forces that safeguard his health—the home, the school, medical care, and the child's own interest."

RULES FOR AUTOMOBILE DRIVERS

Do not race with any one. Many lives have been lost in this way.

Make yourself absolutely familiar with the traffic regulations and rules of the road, and observe them, but always keep your eye on the other fellow. He may not know them, or he may be intoxicated, insane, sick or half blind. When you are dead or have killed some one, there is only an academic interest in the question as to who had the right of way.

Never take unnecessary chances. Although a skilful driver may succeed nine times in ten, the one failure will probably offset all the successes.

Finally, for health's sake, do not forget you have legs, and don't let the love of motoring cause them to become useless.

These are the rules given by Dr. Matthias Nicoll, Jr., New York State commissioner of health, in an address on "The Automobile and the Butcher's Bill."

"If," said Dr. Nicoll, "a modern car of Juggernaut should travel with the speed of an express train from Maine to California and leave in its wake 16,000 men, women and children crushed or burned to death, and 400,000 more crippled and bruised, the people of this country would be horrified and aroused to make every effort to stop this inhuman slaughter, yet just this thing happened in the United States in 1923, except that several thousand little juggernauts did the work over a longer period of time."

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100 MURDERERS STUDIED

Only 15 per cent. of 100 murderers in a Massachusetts prison recently tested by Dr. A. Warren Stearns of Boston had any mental disease, according to a report of his study given in the Monthly Bulletin of the Massachusetts Society for Mental Hygiene. These include five feebleminded, two abnormal personalities, three chronic alcoholics and six insane.

Twenty of the 100 had never been to school a day and were illiterate, and ninety-seven had never been capable of other than manual labor.

That racial influences play a strong part is shown by the fact that forty-one of the 100 murderers came from the Mediterranean countries, chiefly Italy. Of the entire group, only one was born in Massachusetts of American parents.

Lack of education, failure to conform to social customs and low cultural levels were given by Dr. Stearns as the most frequent factors met in the study.

CHILD HEALTH WORKERS TO MEET

The second annual meeting of the American Child Health Association will be held in Kansas City, Mo., October 15, 16 and 17, in the Grand Avenue Temple. Several meetings will be held in conjunction with the Kansas City Society, which will also convene that week.

QUESTIONS AND ANSWERS

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. If the question is of general interest, the answer will be published; otherwise it will be sent by mail. Questions are submitted to recognized authorities in the several branches of medicine and answers framed by them. The names of correspondents will not be published. Diagnoses in individual cases will not be attempted nor treatment prescribed.

Soft Finger Nails

To the Editor:—My finger nails have been very soft for years, but recently they have become much worse. There seems to be a wave or ripple in the nail and about a quarter of the way down from the top, the nail will begin to bend back and crack; finally it grows away from the tissue. How can I remedy this condition? E. R. F., Minnesota.

Answer.—Nail disturbances of the type described are not uncommon. Occasionally the condition is due to a ringworm infection of the nail bed. In case such a source should be determined, it would be necessary, of course, to treat the underlying infection.

If no local cause for the condition is discoverable, it would be advisable to keep the nails in a more pliable condition by anointing them frequently with petrolatum, or a similar non-irritating oily preparation. Occasionally this is all that is necessary to prevent fissuring or splitting of nails.

Permanent Waving

To the Editor:—Is permanent waving injurious to the hair? X. Y. Z., St. Louis.

Answer.—A leading authority on diseases of the skin declares that he has never seen any trouble that can be traced directly to this procedure, except injury through accident during the process. However, physicians who know most about conditions of the scalp think permanent waving is not to be advised.

Soap Bark

To the Editor:—1. Can you tell me if soap bark (quillaja) is the same as Indian soap root or yucca root? I have read that yucca root is the only shampoo used by the Indian women and they have beautiful, glossy hair. 2. Is there any reason why the soap bark cannot be used alone as a shampoo if it is so cleansing? 3. Is such soap bark the same as that sometimes used for cleansing clothing? G. E., Michigan.

Answer.—1. So-called soap bark or quillia bark (quillaja) is not the same as the Indian soap root (chlorogallum pomeridianum).

2. Soap bark, that is quillaja bark, cannot be recommended as a shampoo, because its poisonous ingredients are reported to be violent local irritants.

3. Ordinary soap bark is much used in the arts for washing silk cloth and other fabrics for which soap would not be suitable.

Saccharin

To the Editor:—1. I am writing for information concerning the use of saccharin. Can it be combined in any way with fruit, or fruit juices, in making jelly, butter or preserves for diabetic cases where sugar is not allowed? 2. Can Certo be used in the same preparations? M. G. Kansas.

Answer.—Saccharin is a chemical used as a substitute for sugar only when sugar is used as a sweetener; it is about 500 times sweeter to the taste than sugar. It cannot be used in place of sugar in jelly or preserves as the sugar must be present in large quantities to give the correct "body" to the product. (The exception to this is in the case of a fruit containing a relatively large percentage of sugar, as apple, the juice of which can be boiled to a consistency of a jelly and will contain about 45 per cent. or more sugar.)

Saccharin is used in diabetic diet when it is desired to eliminate the use of sugar, as in coffee, or as a sweetener for cakes made from casein or other substances containing no or little carbohydrate. In fact, fruit and fruit juices themselves must be used carefully by the diabetic who is watching his intake of sugar. Her physician should prescribe a diet for the patient suitable to the severity of the disease.

2. Certo is a commercial preparation containing pectin which causes the sugar solution to jell. Normally, sufficient pectin is present in the fruit, but when there is an inadequate amount the addition of a commercial pectin preparation is of aid. Certo, therefore, is not a substitute for sugar in jelly making.

A good book on diabetic menus should be available for one preparing the food for a diabetic, such for instance as: "Diabetic Manual for Mutual Use of Doctor and Patient" by Dr. Eliott P. Joslin; published by Lea & Febiger, Philadelphia, 1924, price, $2; or "A Primer for Diabetic Patients" by Dr. Russell M. Wilder, Miss Mary A. Foley and Miss Daisy Ellithorpe, published by W. B. Saunders & Co., Philadelphia, price, $1.50.

"Patent Medicine" or Patent Medicine

To the Editor:—What is a proprietary medicine and how does it differ from a patent medicine? B. M. B., Illinois.

Answer.—A proprietary medicine is a product in which an individual has a proprietary interest. This interest is held, as a rule, by giving the product a fancy name and obtaining a trademark on that name.

A real patent medicine is a medicine on which a patent has been issued. The number of true patent medicines on the American market today is negligible. The thousands of preparations which we commonly call "patent medicines" are proprietary medicines—combinations of drugs to which a fancy name has been given and a trademark obtained on that name. It is for that reason that HYGEIA, in discussing products of this sort, always puts the term "patent medicine" in quotation marks.

Very few "patent medicines" (proprietary medicines) on the market could really be patented. The essential requirements to the issuance of a patent is that the product must be something new and useful. As very few "patent medicines" are either, the manufacturers could not obtain a patent on them.

A patent gives the patentee a monopoly for only seventeen years, at the end of which time the product becomes public property. More important yet, when a medicine is patented its composition and method of preparation are matters of public record. This means that a real patent medicine is not secret in composition.

Secrecy and mystery are the backbone of the so-called "patent medicine" business and for this reason, if for none other, the average exploiter of proprietary medicines ("patent medicines") prefers

getting a trademark on a fancy name and maintaining his property rights in that trademark. When a trademark is obtained for such a preparation, no information has to be given to government officials regarding the composition of the product. This allows the manufacturer to change the composition according to his whim. Furthermore, a trademark becomes, virtually, a perpetual monopoly.

Youth Is Fleeing

To the Editor:—I am 38 years old and until last year I have looked no more than 25; I really don't yet, with the exception of my throat, which seems to wrinkle so from chin to base of neck. I use a facial soap with warm water, rinse with cold and about twice a week use a patented face cream, followed by cold water. For a while during the winter, I used the cream every day and my neck seemed to get more flabby. The last month or two I have been using cold salt water after the cream and to wash in mornings. Please tell me what to do. Perhaps a good astringent is what I need. What do you think of benzoin and how should it be used? Is it the benzoin compound one should use? What do you think of egg whites for the face?

B. M., Nebraska.

Answer.—Unfortunately, very little can be accomplished for the ravages of age. The surgical technique of "lifting" the skin of the face is attended by very unfortunate results in many cases. Massage will accomplish very little for wrinkles. Benzoin preparations are of value to protect the skin in winter. Egg white probably would be of no value.

Stammering

To the Editor:—Please tell me what can be done to correct stammering in an 8 year old boy. Until recent months, the child has only had the trouble on occasions, but now he is bothered by it, principally when he tries to relate an incident that has happened or when he answers the telephone. I would like to know the cause of this, and any treatment that can be given. He is a reserved, quiet, rather sensitive child.

K. S. C., Alabama.

Answer.—The manifestations of this 8 year old boy are typical of most beginning stammering—(a) irregularity of manifestations; (b) stammering only when talking under peculiar circumstances (when he tries to relate an incident or answer the telephone); (c) disturbance chiefly with the first word or two of the sentence. Also the fact that he is a boy rather than a girl is suggestive, and the age of onset is typical. The repetition of an entire word, while occasionally met with, is not so characteristic as the repetition of the first sound of the word.

Speaking merely from the evidence available, this child is probably developing stammering in the usual manner and unless the tendency can be arrested, is destined to become a more or less severe and confirmed stammerer.

Behind the evident muscular difficulties in talking, one should look for disturbance of the emotions. This inward nervous stress while talking to people is dependent on a variety of conditions. One must at the start presume on the existence of more or less underlying tendency to excitability and emotionality. The general health should be looked after and the boy should sleep normally and sufficiently; lack of these constitute important possible causative factors.

One should look for possible exciting causes for his emotional or excitable tendency. Such causes are subtle and hard to detect. They are such as might not in any manner affect an adult and yet are potent for a child. They lie in environmental conditions, such as overbearing attitude of an older brother or playmate; overcrowding of the child in the work of school or home; atmosphere of nervousness in the home or school; conditions tending to incite fear.

As to correction, the thought should be to remove the child from emotionalizing influences, such as from reciting at school, from talking to groups of people, from situations generally which seem to produce emotional excitement; to insist on plenty of sleep—if possible, a day-time nap.

One should tactfully (not insistently) attempt to encourage tranquillity in talking; tactfully (so as not to make the child more excited) discourage any attempt to talk while showing excitement; and one should encourage slow and smooth talking. Teach the child by example, rather than by insistence. Recite children's rhymes slowly and distinctly while he repeats them line by line in the same, smooth, distinct manner. Intelligence in handling is necessary.

After a fair attempt has been made to secure results, should the stammering continue, consult an expert in disorders of speech, but remember that the ignorant, unreliable, self-exploiting advertiser is to be avoided. Aid should be sought without undue delay, for the longer the stammering goes on and the older the child, the more profound is the effect on the character and the more difficult the recovery.

Nursing Tuberculous Patients

To the Editor:—1. Will you kindly send me information as to precautions to be taken by one nursing a tuberculous patient? 2. Also information as to what is called an Indian Cure for tuberculosis? 3. Does a person who has had tuberculosis badly and whose case is arrested need to be careful around others and tuberculous patients?

W. H., Chicago.

Answer.—1. Be sure that the patient always covers his mouth when he coughs. This is, perhaps, the most important of all instructions. Paper napkins should be used to the exclusion of cloths and pocket-handkerchiefs. These napkins are used to cover the mouth when the patient coughs, also to receive sputum. After use they should be immediately deposited in paper bags, which are pinned to the side of the bed, within easy reach of the patient. If cups are used, they should be of paper and should be burned. The napkins and bags should also be disposed of by burning. Keep the flies from the patient, and from the sickroom. Table utensils may be disinfected by boiling for a half hour in soap and water. Spoons have been found to carry infection more often than other utensils; they should have especial attention. Bed linen may be disinfected by thorough boiling in laundering. The pieces from the sickroom should be washed separately and dried in the open air, in sunlight, if possible. Cases are rare where careful nurses have contracted tuberculosis.

2. We know of no "Indian Cure" for tuberculosis. There is no evidence that Indians know anything of value about tuberculosis which they have not learned from the white man. The Indian dies quickly when he contracts tuberculosis, and his "cures" fail to influence the progress of his disease.

3. If the ex-patient still has sputum, with or without cough, he must be suspected. If the sputum is found to contain tubercle bacilli, the individual is still able to infect others. If there is no sign of germs in the sputum, the ex-patient is not dangerous to those with whom he comes in contact. The whole question hinges on whether there are bacilli in the sputum or not.

CURRENT HEALTH ITEMS

FARMERS AND THE CHILD LABOR AMENDMENT

That the farmers may be the innocent but effective means of defeating the child labor amendment is feared by E. C. Lindeman writing in the *American Review of Reviews* for July. Certain rural organizations and farm papers have attacked the amendment with alarming vigor, he declares, and although their opposition was not sufficiently powerful to defeat the measure in Congress, they may be only saving strength for purposes of defeating ratification.

Work on the farm performed by children under parents' direction without interference with school attendance is not child labor, but work performed by children for wages, at long hours and under conditions that endanger the child's health, education and morals is. Certain forms of agricultural production have become so industrialized as to make their conditions indistinguishable from those that prevail in factories. Child labor in beet fields is one of these.

Statistics show that thousands of American children are being exploited in industrialized forms of agriculture. To make an exception of agricultural labor would be tantamount to placing a lower valuation on rural children than on city children. Says Mr. Lindeman:

"Current agricultural depression is also used as an argument against the amendment. It is a question-begging argument. Prices of farm products are not low because of underproduction; on the contrary, they are low because of overproduction, underconsumption, an outworn, speculative marketing system, and inadequate credits. Farmers do not need exemption from the child labor amendment to make agriculture successful, but they do need a more just economic system of production and distribution. Our agricultural economy is indeed decrepit and we are a resourceless people if we must rely on the labor of children to save farming from bankruptcy.

"It is unbelievable that clear-headed farmers will be tricked into a position so false as this."

TWO VACATIONS A YEAR

All persons have two vacations a year, says the *American Physical Education Review* in a recent issue. A short vacation, usually of two weeks, is taken in the summer; the long vacation is the leisure-time period after the day's work is completed.

During the long vacation persons work eight hours, sleep eight hours and have eight hours for eating and recreation, the magazine points out. In addition Saturday and Sunday afternoons are available for recreation. Whereas the short summer vacation yields something like 150 hours for recreation, the leisure time during the year allows for at least 1,500 hours, or ten times as much as the summer holiday.

One of the outstanding problems of civic government and of public school administration is to secure the wise use of these 1,500 leisure hours each year.

Although many individual communities have accomplished splendid results in this field, the magazine believes that the schools have not risen to their opportunities. A school building used only from nine until four and a park used only from four until ten are economic and social blunders.

WRESTLING MATS AS SOURCES OF INFECTION

That most institutions are far too careless in the hygiene of their gymnasiums is the opinion of a writer in the *American Journal of Public Health* for July. Skin infections are apt to result from athletic suits, towels and wrestling mats that are not properly disinfected.

Several outbreaks of skin disease were found among students using the gymnasium at Michigan Agricultural College recently and W. L. Mallman, research assistant in bacteriology, started an investigation. He learned that the only article used in common by the men was the wrestling mat. By rubbing sterile swabs over the mat, it was found that many pathogenic organisms were present.

The mats were then disinfected with 40 per cent. aqueous formaldehyde (formalin), the liquid being sprayed on by a small hand fruit sprayer. Immediately after spraying the mat was rolled up tight and allowed to stand over night. Next morning, a test revealed very few bacteria.

Mr. Mallman believes that gymnasiums should disinfect their wrestling mats regularly. Week ends offer the best opportunity for disinfection because the mats can be aired over Sunday and all traces of the formalin removed. Formalin, he believes, makes an ideal disinfectant because of its efficiency in destroying pathogenic organisms and because of its lack of injury to wrestlers and the mat.

SKIN DISEASES IN CHINA

An interesting statistical study of the relative frequency of diseases of the skin in Shanghai by Dr. E. S. Tyair of the National Medical Association of China is published in the *National Medical Journal of China* for April. Five thousand cases treated at the skin clinic of the St. Luke's Hospital, Shanghai, compose the material for this study. Only six of the sixty diseases appeared in a large number of cases. These were scabies (itch), which made up 44.14 per cent. of the total, eczema 22.84 per cent., tinea (ringworm), ecthyma, impetigo (pus infections) and syphilis.

All of these diseases, with the exception of syphilis and eczema, are essentially filth diseases, more or less contagious in nature. Scabies, or itch, is sufficiently common among the poor of occidental countries, but nowhere in Europe or the United States does it constitute nearly one half the total number of skin diseases as is the case in Shanghai.

For the satisfactory treatment of the filth diseases, the personal and home conditions of the poor must be improved. They need instruction about home hygiene and prophylactic measures. It is absurd to treat a child for the itch when other children in the same family, and perhaps the nurse and other adults, have the same trouble. And yet, the remedy for most of these diseases is very simple and sure if only proper living conditions and a reasonable degree of cooperation by the patients and their parents can be secured.

China furnishes a wonderful field for improvement of health conditions through the introduction of relatively simple and inexpensive measures of hygiene and sanitation.